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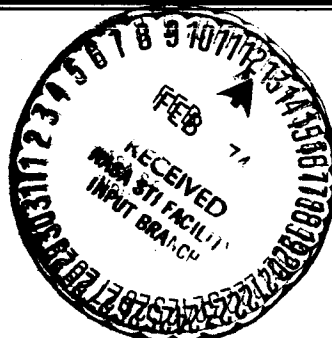
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SEPTEMBER 1958

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PREFACE

This Index comprises those confidential Research Memorandums issued by the National Advisory Committee for Aeronautics between January 1, 1958, and September 30, 1958, that are available for distribution. NACA was absorbed into the National Aeronautics and Space Administration on September 30, 1958, and the Research Memorandum series was discontinued on that date. Research Memorandums that were listed in the preceding confidential Index, dated December 1957, are not listed herein. Some classified Research Memorandums are not included in either of the two Indexes, because they are not available for distribution. The absence of a Research Memorandum from the Indexes does not, therefore, indicate that it is unclassified.

Arrangement of this Index parallels that of the Unclassified Index of NACA Technical Publications, issued annually on a noncumulative basis; the subject-heading entries and subject-heading numbers are the same.

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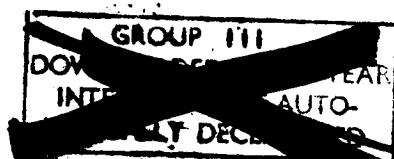
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(1) AERODYNAMICS

(1.1)

Fundamental Aerodynamics

(1.1.2)

COMPRESSIBLE FLOW

INVESTIGATION OF VORTEX MOVEMENTS ABOUT A WING IN STEADY SUBSONIC FLOW UNDERGOING A LARGE ANGLE-OF-ATTACK CHANGE IN A BLAST-INDUCED GUST. Donald R. McFarland and Paul W. Huber. January 1958. 41p. diagrs., photos., tab. (NACA RM L57K04) **CONFIDENTIAL**

HEAT TRANSFER TO 0° AND 75° SWEPT BLUNT LEADING EDGES IN FREE FLIGHT AT MACH NUMBERS FROM 1.90 TO 3.07. Robert L. O'Neal and Aleck C. Bond. March 1958. 38p. diagrs., photos. (NACA RM L58A13) **CONFIDENTIAL**

AN ANALYSIS OF SURFACE PRESSURES AND AERODYNAMIC LOAD DISTRIBUTION OVER THE SWEPT WING OF THE DOUGLAS D-558-II RESEARCH AIRPLANE AT MACH NUMBERS FROM 0.73 TO 1.73. Norman V. Taillon. April 1958. 51p. diagrs., photo., tabs. (NACA RM H58A30) **CONFIDENTIAL**

PRELIMINARY AERODYNAMIC DATA PERTINENT TO MANNED SATELLITE REENTRY CONFIGURATIONS. Jim A. Penland and William O. Armstrong. July 1958. 16p. diagrs. (NACA RM L58E13a) **CONFIDENTIAL**

STABILITY OF BALLISTIC REENTRY BODIES. John D. Bird and David E. Reese. August 1958. 16p. diagrs., tab. (NACA RM L58E02a) **CONFIDENTIAL**

(1.1.2.1)

SUBSONIC FLOW

COMPARISON OF EXPERIMENTALLY AND ANALYTICALLY DETERMINED WINDMILLING CHARACTERISTICS OF A COMPRESSOR WITH LOW OVER-ALL PRESSURE RATIO. James E. Hatch. February 1958. 16p. diagrs. (NACA RM E57L12a) **CONFIDENTIAL**

EFFECTS OF SHOCK--BOUNDARY-LAYER INTERACTION ON THE PERFORMANCE OF A LONG AND A SHORT SUBSONIC ANNULAR DIFFUSER. Charles C. Wood and John R. Henry. April 1958. 38p. diagrs. (NACA RM L58A31) **CONFIDENTIAL**

(1.1.2.2)

MIXED FLOW

EFFECT OF A HOT-JET EXHAUST ON PRESSURE DISTRIBUTIONS AND EXTERNAL DRAG OF SEVERAL AFTERBODIES ON A SINGLE-ENGINE AIRPLANE MODEL AT TRANSONIC SPEEDS. Harry T. Norton, Jr., and John M. Swihart. March 1958. 58p. diagrs., photos., tab. (NACA RM L57J04) **CONFIDENTIAL**

INVESTIGATION AT TRANSONIC SPEEDS OF A FIXED DIVERGENT EJECTOR INSTALLED IN A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart and Charles E. Mercer. March 1958. 32p. diagrs., photos. (NACA RM L57L10a) **CONFIDENTIAL**

(1.1.2.3)

SUPERSONIC FLOW

HEAT TRANSFER ON AN AFTERBODY IMMERSED IN THE SEPARATED WAKE OF A HEMISPHERE. Helmer V. Nielsen. January 1958. 13p. diagrs., photos. (NACA RM A57K07a) **CONFIDENTIAL**

FREE-FLIGHT PRESSURE MEASUREMENTS OVER A FLARE-STABILIZED ROCKET MODEL WITH A MODIFIED VON KARMAN NOSE FOR MACH NUMBERS UP TO 4.3. William M. Bland, Jr., and Ronald Kolenkiewicz. January 1958. 21p. diagrs., photos., tabs. (NACA RM L57J24) **CONFIDENTIAL**

SOME EFFECTS OF REYNOLDS NUMBER ON THE STABILITY OF A SERIES OF FLARED-BODY AND BLUNTED-CONE MODELS AT MACH NUMBERS FROM 1.62 TO 6.86. Alan B. Kehlet. January 1958. 35p. diagrs., photos., tabs. (NACA RM L57J29) **CONFIDENTIAL**

PRELIMINARY INVESTIGATION OF GRAPHITE, SILICON CARBIDE, AND SEVERAL POLYMER-GLASS-CLOTH LAMINATES IN A MACH NUMBER 2 AIR JET AT STAGNATION TEMPERATURES OF $3,000^\circ\text{F}$ AND $4,000^\circ\text{F}$. Francis W. Casey, Jr., and Russell N. Hopko. January 1958. 18p. diagrs., photos. (NACA RM L57K15) **CONFIDENTIAL**

EXPERIMENTAL AND THEORETICAL DETERMINATION OF FORCES AND MOMENTS ON A STORE AND ON A STORE-PYLON COMBINATION MOUNTED ON A 45° SWEPT-WING-FUSELAGE CONFIGURATION AT A MACH NUMBER OF 1.81. Odell A. Morris, Harry W. Carlson, and Douglas J. Geler. January 1958. 123p. diagrs., photos. (NACA RM L57K18) **CONFIDENTIAL**

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(1) AERODYNAMICS

INVESTIGATION OF FIXED-GEOMETRY SUPERSONIC INLETS WITH BYPASS DUCTS FOR MATCHING TURBOJET-ENGINE AIR-FLOW REQUIREMENTS OVER A RANGE OF TRANSONIC AND SUPERSONIC SPEEDS. Abraham Leiss and Walter L. Kouyoumjian. February 1958. 40p. diagrs., photos., tabs. (NACA RM L57K14)

CONFIDENTIAL

INVESTIGATION OF THE STATIC LATERAL STABILITY AND AILERON CHARACTERISTICS OF A 0.067-SCALE MODEL OF THE BELL X-2 AIRPLANE AT MACH NUMBERS OF 2.29, 2.78, 3.22, AND 3.71. Roger H. Fournier and H. Norman Silvers. March 1958. 50p. diagrs., photos., tab. (NACA RM L57J28a)

CONFIDENTIAL

AN INVESTIGATION AT MACH NUMBERS 1.94 AND 2.41 OF JET EFFECTS UPON THE LONGITUDINAL AND DIRECTIONAL STABILITY OF A GENERAL AIRCRAFT CONFIGURATION EMPLOYING WING-TIP-MOUNTED NACELLES. Frank L. Clark and Clyde L. W. Edwards. March 1958. 69p. diagrs., photos. (NACA RM L57L18a)

CONFIDENTIAL

SOME EXPERIMENTAL HEATING DATA ON CONVEX AND CONCAVE HEMISPHERICAL NOSE SHAPES AND HEMISPHERICAL DEPRESSIONS ON A 30° BLUNTED NOSE CONE. Russell N. Hopko and H. Kurt Strass. March 1958. 32p. diagrs., photos. (NACA RM L58A17a)

CONFIDENTIAL

SURVEY OF SUPERSONIC INLETS FOR HIGH MACH NUMBER APPLICATIONS. James F. Connors and John L. Allen. April 1958. 20p. diagrs., photos., tabs. (NACA RM E58A20)

CONFIDENTIAL

EFFECTS OF SHOCK-BOUNDARY-LAYER INTERACTION ON THE PERFORMANCE OF A LONG AND A SHORT SUBSONIC ANNULAR DIFFUSER. Charles C. Wood and John R. Henry. April 1958. 38p. diagrs. (NACA RM L58A31)

CONFIDENTIAL

HIGH MACH NUMBER. LOW-COWL-DRAW. EXTERNAL-COMPRESSION INLET WITH SUBSONIC DUMP DIFFUSER. James F. Connors and Richard J. Flaherty. May 1958. 19p. diagrs., photos. (NACA RM E58A09)

CONFIDENTIAL

HEAT TRANSFER FOR MACH NUMBERS UP TO 2.2 AND PRESSURE DISTRIBUTIONS FOR MACH NUMBERS UP TO 4.7 FROM FLIGHT INVESTIGATIONS OF A FLAT-FACE-CONE AND A HEMISPHERE-CONE. Katherine C. Speegle, Leo T. Chauvin, and Jack C. Heberlig. May 1958. 60p. diagrs., photos., tabs. (NACA RM L58B18)

CONFIDENTIAL

THEORETICAL ANALYSIS OF THE INTERFERENCE EFFECTS OF SEVERAL SUPERSONIC-TUNNEL WALLS CAPABLE OF ABSORBING THE SHOCK CAUSED BY THE NOSE OF A MODEL. Clarence W. Matthews. May 1958. 50p. diagrs. (NACA RM L58B21)

CONFIDENTIAL

SOME EFFECTS OF ROUGHNESS ON STAGNATION-POINT HEAT TRANSFER AT A MACH NUMBER OF 2, A STAGNATION TEMPERATURE OF 3,530° F, AND A REYNOLDS NUMBER OF 2.5×10^6 PER FOOT. H. Kurt Strass and Thomas W. Tyner. May 1958. 31p. diagrs., photos., tabs. (NACA RM L58C10)

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PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diagrs., photos., tabs. (NACA RM L58D09)

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EFFECT OF SCREENS IN REDUCING DISTORTION AND DIFFUSION LENGTH FOR A "DUMP" DIFFUSER AT A MACH NUMBER OF 3.85. Joseph F. Wasserbauer. July 1958. 18p. diagrs., photos. (NACA RM E58C19)

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(Title, Confidential)

BOUNDARY-LAYER-TRANSITION MEASUREMENTS IN FULL-SCALE FLIGHT. Richard D. Banner, John G. McTigue, and Gilbert Petty, Jr. July 1958. 10p. diagrs., photos. (NACA RM H58E28)

CONFIDENTIAL

HEAT TRANSFER AND PRESSURE MEASUREMENT ON A 5-INCH HEMISPHERICAL CONCAVE NOSE AT A MACH NUMBER OF 2.0. J. Thomas Markley. July 1958. 20p. diagrs., photos. (NACA RM L58C14a)

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INVESTIGATION OF CONTROL EFFECTIVENESS AND STABILITY CHARACTERISTICS OF A MODEL OF A LOW-WING MISSILE WITH INTERDIGITATED TAIL SURFACES AT MACH NUMBERS OF 2.29, 2.97, AND 3.51. John G. Presnell, Jr. July 1958. 28p. diagrs., photos., tab. (NACA RM L58C19)

CONFIDENTIAL

INVESTIGATION OF THE AERODYNAMIC CHARACTERISTICS OF A MODEL OF A SUPERSONIC BOMBER CONFIGURATION WITH A SWEEPED AND AN UNSWEEPED WING AT MACH NUMBERS FROM 1.79 TO 2.67. H. Norman Silvers and Raymond L. Zedekar. July 1958. 24p. diagrs., photos., tab. (NACA RM L58C27)

CONFIDENTIAL

TELEMETER TRANSMISSION AT 219.5 MEGACYCLES FROM TWO ROCKET-POWERED MODELS AT MACH NUMBERS UP TO 15.7. George B. Graves, Jr., and J. Thomas Markley. July 1958. 38p. diagrs., photos. (NACA RM L58D18a)

CONFIDENTIAL

HEAT-TRANSFER MEASUREMENTS ON A CONCAVE HEMISPHERICAL NOSE SHAPE WITH UNSTEADY-FLOW EFFECTS AT MACH NUMBERS OF 1.98 AND 4.95. Morton Cooper, Ivan E. Beckwith, Jim J. Jones, and James J. Gallagher. July 1958. 20p. diagrs., photos. (NACA RM L58D25a)

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(1) AERODYNAMICS

HEAT TRANSFER TO SURFACES AND PROTUBERANCES IN A SUPERSONIC TURBULENT BOUNDARY LAYER. Paige B. Burbank and H. Kurt Strass. July 1958. 16p. diagrs., photos. (NACA RM L58E01a) **CONFIDENTIAL**

QUALITATIVE MEASUREMENTS OF THE EFFECTIVE HEATS OF ABLATION OF SEVERAL MATERIALS IN SUPERSONIC AIR JETS AT STAGNATION TEMPERATURES UP TO 11,000° F. Bernard Rashis, William G. Witte, and Russell N. Hopko. July 1958. 25p. diagrs., photo., tabs. (NACA RM L58E22) **CONFIDENTIAL**

PERFORMANCE OF AN ALL-INTERNAL CONICAL COMPRESSION INLET WITH ANNULAR THROAT BLEED AT MACH NUMBER 5.0. Leonard E. Stitt and Leonard J. Obery. August 1958. 17p. diagrs., photos. (NACA RM E58E14) **CONFIDENTIAL**
(Title, Confidential)

LONGITUDINAL AND LATERAL AERODYNAMIC CHARACTERISTICS AT COMBINED ANGLES OF ATTACK AND SIDESLIP OF A GENERALIZED MISSILE MODEL HAVING A RECTANGULAR WING AT A MACH NUMBER OF 4.08. Fred M. Smith, Edward F. Ulmann, and Robert W. Dunning. August 1958. 91p. diagrs., photos., tabs. (NACA RM L58E26) **CONFIDENTIAL**

AERODYNAMIC PERFORMANCE AND STATIC STABILITY AND CONTROL OF FLAT-TOP HYPERSONIC GLIDERS AT MACH NUMBERS FROM 0.6 TO 18. Clarence A. Syvertson, Hermilo R. Gloria, and Michael F. Sarabia. September 1958. 56p. diagrs., tabs. (NACA RM A58G17) **CONFIDENTIAL**

DESIGN AND EXPERIMENTAL INVESTIGATION OF A SINGLE-STAGE TURBINE WITH A ROTOR ENTERING RELATIVE MACH NUMBER OF 2. Thomas P. Moffitt. September 1958. 30p. diagrs., photos., tabs. (NACA RM E58F20a) **CONFIDENTIAL**

A PIVOTING-COWL-AND-SPIKE TECHNIQUE FOR EFFICIENT ANGLE-OF-ATTACK OPERATION OF SUPERSONIC INLETS. Nick E. Samanich and Robert W. Cubbison. September 1958. 20p. diagrs., photos. (NACA RM E58G11a) **CONFIDENTIAL**

(1.1.3)
VISCOUS FLOW

SOME EFFECTS OF REYNOLDS NUMBER ON THE STABILITY OF A SERIES OF FLARED-BODY AND BLUNTED-CONE MODELS AT MACH NUMBERS FROM 1.62 TO 6.86. Alan B. Kehlet. January 1958. 35p. diagrs., photos., tabs. (NACA RM L57J29) **CONFIDENTIAL**

(1.1.3.1)
LAMINAR FLOW

FREE-FLIGHT AERODYNAMIC-HEATING DATA AT MACH NUMBERS UP TO 10.9 ON A FLAT-FACED CYLINDER. William M. Bland, Jr., Andrew G. Swanson, and Ronald Kolenkiewicz. January 1958. 46p. diagrs., photos., tabs. (NACA RM L57K29) **CONFIDENTIAL**

HEAT TRANSFER TO 0° AND 75° SWEEP BLUNT LEADING EDGES IN FREE FLIGHT AT MACH NUMBERS FROM 1.90 TO 3.07. Robert L. O'Neal and Aleck C. Bond. March 1958. 38p. diagrs., photos. (NACA RM L58A13) **CONFIDENTIAL**

THE PROSPECTS FOR LAMINAR FLOW ON HYPERSONIC AIRPLANES. Alvin Seiff. June 1958. 17p. diagrs., photo. (NACA RM A58D25) **CONFIDENTIAL**

(1.1.3.2)
TURBULENT FLOW

HEAT TRANSFER ON AN AFTERBODY IMMERSSED IN THE SEPARATED WAKE OF A HEMISPHERE. Helmer V. Nielsen. January 1958. 13p. diagrs., photos. (NACA RM A57K07a) **CONFIDENTIAL**

EFFECT OF TARGET-TYPE THRUST REVERSER ON TRANSONIC AERODYNAMIC CHARACTERISTICS OF A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart. January 1958. 42p. diagrs., photos., tab. (NACA RM L57J16) **CONFIDENTIAL**

HEAT TRANSFER TO 0° AND 75° SWEEP BLUNT LEADING EDGES IN FREE FLIGHT AT MACH NUMBERS FROM 1.90 TO 3.07. Robert L. O'Neal and Aleck C. Bond. March 1958. 38p. diagrs., photos. (NACA RM L58A13) **CONFIDENTIAL**

HEAT TRANSFER TO SURFACES AND PROTUBERANCES IN A SUPERSONIC TURBULENT BOUNDARY LAYER. Paige B. Burbank and H. Kurt Strass. July 1958. 16p. diagrs., photos. (NACA RM L58E01a) **CONFIDENTIAL**

(1.1.3.3)
JET MIXING

FREE-FLIGHT ROLL PERFORMANCE OF A STEADY-FLOW JET-SPOILER CONTROL ON AN 80° DELTA-WING MISSILE BETWEEN MACH NUMBERS OF 0.6 AND 1.8. Eugene D. Schult. January 1958. 35p. diagrs., photos. (NACA RM L57J28) **CONFIDENTIAL**

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(1) AERODYNAMICS

AN INVESTIGATION AT MACH NUMBERS 1.94 AND 2.41 OF JET EFFECTS UPON THE LONGITUDINAL AND DIRECTIONAL STABILITY OF A GENERAL AIRCRAFT CONFIGURATION EMPLOYING WING-TIP-MOUNTED NACELLES. Frank L. Clark and Clyde L. W. Edwards. March 1958. 69p. diagrs., photos. (NACA RM L57L18a)

CONFIDENTIAL

JET EFFECTS ON THE BASE DRAG OF A CYLINDRICAL AFTERBODY WITH EXTENDED NOZZLES. William J. Nelson and William R. Scott. April 1958. 41p. diagrs., photos. (NACA RM L58A27)

CONFIDENTIAL

PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diagrs., photos., tabs. (NACA RM L58D09)

CONFIDENTIAL

EFFECT OF CONVERGENT EJECTOR NOZZLES ON THE BOATTAIL DRAG OF A 16° CONICAL AFTERBODY AT MACH NUMBERS OF 0.6 TO 1.26. James M. Cubbage, Jr. September 1958. 33p. diagrs., photos. (NACA RM L58G25)

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(1.1.4)

AERODYNAMICS WITH HEAT

EFFECTS OF SURFACE ROUGHNESS AND EXTREME COOLING ON BOUNDARY-LAYER TRANSITION FOR 15° CONE-CYLINDER IN FREE FLIGHT AT MACH NUMBERS TO 7.6. Leonard Rabb and Milan J. Krasnican. March 1958. 61p. diagrs., photos., tabs. (NACA RM E57K19)

CONFIDENTIAL

(1.1.4.1)

HEATING

HEAT TRANSFER ON AN AFTERBODY IMMERSED IN THE SEPARATED WAKE OF A HEMISPHERE. Helmer V. Nielsen. January 1958. 13p. diagrs., photos. (NACA RM A57K07a)

CONFIDENTIAL

LIMITED TESTS OF MOLYBDENUM COATED WITH MOLYBDENUM DISILICIDE IN A SUPERSONIC HEATED-AIR JET AND BRIEF DESCRIPTION OF THE COATING FACILITY. E. M. Fields and N. T. Wakelyn. January 1958. 21p. diagrs., photos., tabs. (NACA RM L57I12)

CONFIDENTIAL

AN INITIAL EXPERIMENTAL STUDY OF THE EFFECT OF VARIATIONS IN FREQUENCY AND IMPULSE ON THE REDUCTION IN TEMPERATURE RECOVERY FACTOR AFFORDED BY LARGE-SCALE UNSTEADY FLOW. Robert R. Howell. January 1958. 23p. diagrs., photo., tab. (NACA RM L57I27)

CONFIDENTIAL

INVESTIGATION OF TANTALUM IN A 3,800° F SUPERSONIC AIRSTREAM. Otto F. Trout, Jr., and Jerry L. Modisette. January 1958. 13p. diagrs., photos., tab. (NACA RM L57J07a)

CONFIDENTIAL

MEASUREMENTS OF AERODYNAMIC HEAT TRANSFER ON A 15° CONE-CYLINDER-FLARE CONFIGURATION IN FREE FLIGHT AT MACH NUMBERS UP TO 4.7. Charles B. Rumsey and Dorothy B. Lee. January 1958. 61p. diagrs., photos., tabs. (NACA RM L57J10)

CONFIDENTIAL

SOME EFFECTS OF FIN LEADING-EDGE SHAPE ON AERODYNAMIC HEATING AT MACH NUMBER 2.0 AT A STAGNATION TEMPERATURE OF ABOUT 2,600° R. William M. Bland, Jr. January 1958. 15p. diagrs., photos. (NACA RM L57K12)

CONFIDENTIAL

PRELIMINARY INVESTIGATION OF GRAPHITE, SILICON CARBIDE, AND SEVERAL POLYMER-GLASS-CLOTH LAMINATES IN A MACH NUMBER 2 AIR JET AT STAGNATION TEMPERATURES OF 3,000° F AND 4,000° F. Francis W. Casey, Jr., and Russell N. Hopko. January 1958. 18p. diagrs., photos. (NACA RM L57K15)

CONFIDENTIAL

FREE-FLIGHT AERODYNAMIC-HEATING DATA AT MACH NUMBERS UP TO 10.9 ON A FLAT-FACED CYLINDER. William M. Bland, Jr., Andrew G. Swanson, and Ronald Kolenkiewicz. January 1958. 46p. diagrs., photos., tabs. (NACA RM L57K29)

CONFIDENTIAL

HEAT-TRANSFER MEASUREMENTS IN FREE FLIGHT AT MACH NUMBERS UP TO 14.6 ON A FLAT-FACED CONICAL NOSE WITH A TOTAL ANGLE OF 29°. Charles B. Rumsey and Dorothy B. Lee. January 1958. 43p. diagrs., photos., tab. (NACA RM L57L03)

CONFIDENTIAL

MEASUREMENTS OF AERODYNAMIC HEAT TRANSFER IN TURBULENT SEPARATED REGIONS AT A MACH NUMBER OF 1.8. Benjamin J. Garland and James R. Hall. February 1958. 16p. diagrs., photos., tab. (NACA RM L57L09)

CONFIDENTIAL

HEAT TRANSFER MEASURED ON A FLAT-FACE CYLINDER-FLARE CONFIGURATION IN FREE FLIGHT AT MACH NUMBERS FROM 1.6 TO 2.7. Dorothy B. Lee and Andrew G. Swanson. February 1958. 33p. diagrs., photos., tabs. (NACA RM L58A06)

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(1) AERODYNAMICS

FEASIBILITY OF NOSE-CONE COOLING BY THE UPSTREAM EJECTION OF SOLID COOLANTS AT THE STAGNATION POINT. William H. Kinard. March 1958. 17p. diagrs., photos., tab. (NACA RM L57K22) **CONFIDENTIAL**

HEAT TRANSFER TO 0° AND 75° SWEEP BLUNT LEADING EDGES IN FREE FLIGHT AT MACH NUMBERS FROM 1.90 TO 3.07. Robert L. O'Neal and Aleck C. Bond. March 1958. 38p. diagrs., photos. (NACA RM L58A13) **CONFIDENTIAL**

PRELIMINARY SURVEY OF POSSIBLE COOLING METHODS FOR HYPERSONIC AIRCRAFT. Jack B. Esgar, Robert O. Hickel, and Francis S. Stepka. May 1958. 37p. diagrs. (NACA RM E57L19) **CONFIDENTIAL**

TESTS OF AERODYNAMICALLY HEATED MULTI-WEB WING STRUCTURES IN A FREE JET AT MACH NUMBER 2. FOUR ALUMINUM-ALLOY MODELS OF 20-INCH CHORD AND SPAN WITH 0.064-INCH-THICK SKIN, 0.025-INCH-THICK RIBS AND WEBS, AND ZERO, ONE, TWO, OR THREE CHORDWISE RIBS. John R. Davidson, Richard Rosecrans, and Louis F. Vosteen. May 1958. 42p. diagrs., photos., tabs., film suppl. available on request. (NACA RM L57L13) **CONFIDENTIAL**

HEAT TRANSFER FOR MACH NUMBERS UP TO 2.2 AND PRESSURE DISTRIBUTIONS FOR MACH NUMBERS UP TO 4.7 FROM FLIGHT INVESTIGATIONS OF A FLAT-FACE-CONE AND A HEMISPHERE-CONE. Katherine C. Speegle, Leo T. Chauvin, and Jack C. Heberlig. May 1958. 60p. diagrs., photos., tabs. (NACA RM L58B18) **CONFIDENTIAL**

A FEASIBILITY STUDY OF THE FLARE-CYLINDER CONFIGURATION AS A REENTRY BODY SHAPE FOR AN INTERMEDIATE RANGE BALLISTIC MISSILE. James R. Hall and Benjamin J. Garland. May 1958. 23p. diagrs. (NACA RM L58C21) **CONFIDENTIAL**

TESTS OF AERODYNAMICALLY HEATED MULTI-WEB WING STRUCTURES IN A FREE JET AT MACH NUMBER 2. AN ALUMINUM-ALLOY MODEL OF 40-INCH CHORD WITH 0.125-INCH-THICK SKIN. George E. Griffith and Georgene H. Miltonberger. June 1958. 36p. diagrs., photos., tabs., film suppl. available on request. (NACA RM L58C24) **CONFIDENTIAL**

EFFECT OF AERODYNAMIC HEATING ON THE FLUTTER OF A RECTANGULAR WING AT A MACH NUMBER OF 2. Harry L. Runyan and Nan H. Jones. June 1958. 16p. diagrs., photos. (NACA RM L58C31) **CONFIDENTIAL**

EFFECT OF SPIKE-TIP AND COWL-LIP BLUNTING ON INLET PERFORMANCE OF A MACH 3.0 EXTERNAL-COMPRESSION INLET. R. W. Cubbison and N. E. Samanich. September 1958. 19p. diagrs., photos. (NACA RM E58G02a) **CONFIDENTIAL**

FREE-FLIGHT INVESTIGATION OF AERODYNAMIC HEAT TRANSFER TO A SIMULATED GLIDE-ROCKET SHAPE AT MACH NUMBERS UP TO 10. Andrew G. Swanson. September 1958. 49p. diagrs., photos., tabs. (NACA RM L58G03) **CONFIDENTIAL**

HEAT TRANSFER MEASURED IN FREE FLIGHT ON A SLIGHTLY BLUNTED 25° CONE-CYLINDER-FLARE CONFIGURATION AT MACH NUMBERS UP TO 9.89. Dorothy B. Lee, Charles B. Rumsey, and Aleck C. Bond. September 1958. 63p. diagrs., photos., tabs. (NACA RM L58G21) **CONFIDENTIAL**

(1.1.4.2)

HEAT TRANSFER

MEASUREMENTS OF AERODYNAMIC HEAT TRANSFER ON A 15° CONE-CYLINDER-FLARE CONFIGURATION IN FREE FLIGHT AT MACH NUMBERS UP TO 4.7. Charles B. Rumsey and Dorothy B. Lee. January 1958. 61p. diagrs., photos., tabs. (NACA RM L57J10) **CONFIDENTIAL**

SOME EFFECTS OF FIN LEADING-EDGE SHAPE ON AERODYNAMIC HEATING AT MACH NUMBER 2.0 AT A STAGNATION TEMPERATURE OF ABOUT 2,600° R. William M. Bland, Jr. January 1958. 15p. diagrs., photos. (NACA RM L57K12) **CONFIDENTIAL**

FREE-FLIGHT AERODYNAMIC-HEATING DATA AT MACH NUMBERS UP TO 10.9 ON A FLAT-FACED CYLINDER. William M. Bland, Jr., Andrew G. Swanson, and Ronald Kolenkiewicz. January 1958. 46p. diagrs., photos., tabs. (NACA RM L57K29) **CONFIDENTIAL**

HEAT-TRANSFER MEASUREMENTS IN FREE FLIGHT AT MACH NUMBERS UP TO 14.6 ON A FLAT-FACED CONICAL NOSE WITH A TOTAL ANGLE OF 29°. Charles B. Rumsey and Dorothy B. Lee. January 1958. 43p. diagrs., photos., tab. (NACA RM L57L03) **CONFIDENTIAL**

BEHAVIOR OF SOME MATERIALS AND SHAPES IN SUPERSONIC FREE JETS AT STAGNATION TEMPERATURES UP TO 4,210° F, AND DESCRIPTIONS OF THE JETS. E. M. Fields, Russell N. Hopko, Robert L. Swain, and Otto F. Trout, Jr. February 1958. 59p. diagrs., photos., tabs. (NACA RM L57K26) **CONFIDENTIAL**

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(1) AERODYNAMICS

MEASUREMENTS OF AERODYNAMIC HEAT TRANSFER IN TURBULENT SEPARATED REGIONS AT A MACH NUMBER OF 1.8. Benjamin J. Garland and James R. Hall. February 1958. 16p. diagrs., photos., tab. (NACA RM L57L09) **CONFIDENTIAL**

HEAT TRANSFER MEASURED ON A FLAT-FACE CYLINDER-FLARE CONFIGURATION IN FREE FLIGHT AT MACH NUMBERS FROM 1.6 TO 2.7. Dorothy B. Lee and Andrew G. Swanson. February 1958. 33p. diagrs., photos., tabs. (NACA RM L58A06) **CONFIDENTIAL**

HEAT TRANSFER TO 0° AND 75° SWEEPED BLUNT LEADING EDGES IN FREE FLIGHT AT MACH NUMBERS FROM 1.90 TO 3.07. Robert L. O'Neal and Aleck C. Bond. March 1958. 38p. diagrs., photos. (NACA RM L58A13) **CONFIDENTIAL**

SOME EXPERIMENTAL HEATING DATA ON CONVEX AND CONCAVE HEMISPHERICAL NOSE SHAPES AND HEMISPHERICAL DEPRESSIONS ON A 30° BLUNTED NOSE CONE. Russell N. Hopko and H. Kurt Strass. March 1958. 32p. diagrs., photos. (NACA RM L58A17a) **CONFIDENTIAL**

INVESTIGATION OF LITHIUM HYDRIDE AND MAGNESIUM AS HIGH-TEMPERATURE INTERNAL COOLANTS WITH SEVERAL SKIN MATERIALS. Jerry L. Modisette. May 1958. 16p. diagrs., photos., tab. (NACA RM L58B17) **CONFIDENTIAL**
(Title, Confidential)

HEAT TRANSFER FOR MACH NUMBERS UP TO 2.2 AND PRESSURE DISTRIBUTIONS FOR MACH NUMBERS UP TO 4.7 FROM FLIGHT INVESTIGATIONS OF A FLAT-FACE-CONE AND A HEMISPHERE-CONE. Katherine C. Speegle, Leo T. Chauvin, and Jack C. Heberlig. May 1958. 60p. diagrs., photos., tabs. (NACA RM L58B18) **CONFIDENTIAL**

SOME EFFECTS OF ROUGHNESS ON STAGNATION-POINT HEAT TRANSFER AT A MACH NUMBER OF 2, A STAGNATION TEMPERATURE OF $3,530^\circ$ F, AND A REYNOLDS NUMBER OF 2.5×10^6 PER FOOT. H. Kurt Strass and Thomas W. Tyner. May 1958. 31p. diagrs., photos., tabs. (NACA RM L58C10) **CONFIDENTIAL**

HEAT TRANSFER AND PRESSURE MEASUREMENT ON A 5-INCH HEMISPHERICAL CONCAVE NOSE AT A MACH NUMBER OF 2.0. J. Thomas Markley. July 1958. 20p. diagrs., photos. (NACA RM L58C14a) **CONFIDENTIAL**

HEAT-TRANSFER MEASUREMENTS ON A CONCAVE HEMISPHERICAL NOSE SHAPE WITH UNSTEADY-FLOW EFFECTS AT MACH NUMBERS OF 1.98 AND 4.95. Morton Cooper, Ivan E. Beckwith, Jim J. Jones, and James J. Gallagher. July 1958. 20p. diagrs., photos. (NACA RM L58D25a) **CONFIDENTIAL**

HEAT TRANSFER TO SURFACES AND PROTUBERANCES IN A SUPERSONIC TURBULENT BOUNDARY LAYER. Paige B. Burbank and H. Kurt Strass. July 1958. 16p. diagrs., photos. (NACA RM L58E01a) **CONFIDENTIAL**

EXPERIMENTAL ABLATION COOLING. Aleck C. Bond, Bernard Rashis, and L. Ross Levin. July 1958. 17p. diagrs., photos., film suppl. available on request. (NACA RM L58E15a) **CONFIDENTIAL**

QUALITATIVE MEASUREMENTS OF THE EFFECTIVE HEATS OF ABLATION OF SEVERAL MATERIALS IN SUPERSONIC AIR JETS AT STAGNATION TEMPERATURES UP TO $11,000^\circ$ F. Bernard Rashis, William G. Witte, and Russell N. Hopko. July 1958. 25p. diagrs., photo., tabs. (NACA RM L58E22) **CONFIDENTIAL**

EXPERIMENTAL INVESTIGATION OF THE EFFECT OF YAW ON RATES OF HEAT TRANSFER TO TRANSVERSE CIRCULAR CYLINDERS IN A 6500-FOOT-PER-SECOND HYPERSONIC AIR STREAM. Bernard E. Cunningham and Samuel Kraus. August 1958. 45p. diagrs., photos. (NACA RM A58E19) **CONFIDENTIAL**

AERODYNAMIC HEATING OF BLUNT NOSE SHAPES AT MACH NUMBERS UP TO 14. William E. Stoney, Jr. August 1958. 18p. diagrs., photo., film suppl. available on request. (NACA RM L58E05a) **CONFIDENTIAL**

FREE-FLIGHT INVESTIGATION OF AERODYNAMIC HEAT TRANSFER TO A SIMULATED GLIDE-ROCKET SHAPE AT MACH NUMBERS UP TO 10. Andrew G. Swanson. September 1958. 49p. diagrs., photos., tabs. (NACA RM L58G03) **CONFIDENTIAL**

HEAT TRANSFER MEASURED IN FREE FLIGHT ON A SLIGHTLY BLUNTED 25° CONE-CYLINDER-FLARE CONFIGURATION AT MACH NUMBERS UP TO 9.89. Dorothy B. Lee, Charles B. Rumsey, and Aleck C. Bond. September 1958. 63p. diagrs., photos., tabs. (NACA RM L58G21) **CONFIDENTIAL**

(1.1.4.3)
ADDITIONS OF HEAT

SURVEY OF SUPERSONIC INLETS FOR HIGH MACH NUMBER APPLICATIONS. James F. Connors and John L. Allen. April 1958. 20p. diagrs., photos., tabs. (NACA RM E58A20) **CONFIDENTIAL**

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(1) AERODYNAMICS

(1.1.5)

FLOW OF RAREFIED GASES

TELEMETER TRANSMISSION AT 219.5 MEGA-
CYCLES FROM TWO ROCKET-POWERED MODELS
AT MACH NUMBERS UP TO 15.7. George B.
Graves, Jr., and J. Thomas Markley. July 1958.
38p. diags., photos. (NACA RM L58D18a)
CONFIDENTIAL

(1.1.6)

TIME - DEPENDENT FLOW

AN INITIAL EXPERIMENTAL STUDY OF THE
EFFECT OF VARIATIONS IN FREQUENCY AND
IMPULSE ON THE REDUCTION IN TEMPERATURE
RECOVERY FACTOR AFFORDED BY LARGE-
SCALE UNSTEADY FLOW. Robert R. Howell.
January 1958. 23p. diags., photo., tab.
(NACA RM L57I27) CONFIDENTIAL

INVESTIGATION OF VORTEX MOVEMENTS ABOUT
A WING IN STEADY SUBSONIC FLOW UNDERGOING
A LARGE ANGLE-OF-ATTACK CHANGE IN A
BLAST-INDUCED GUST. Donald R. McFarland and
Paul W. Huber. January 1958. 41p. diags.,
photos., tab. (NACA RM L57K04) CONFIDENTIAL

HEAT-TRANSFER MEASUREMENTS ON A CON-
CAVE HEMISPHERICAL NOSE SHAPE WITH
UNSTEADY-FLOW EFFECTS AT MACH NUMBERS
OF 1.98 AND 4.95. Morton Cooper, Ivan E.
Beckwith, Jim J. Jones, and James J. Gallagher.
July 1958. 20p. diags., photos.
(NACA RM L58D25a) CONFIDENTIAL

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(1) AERODYNAMICS

(1.2)
Wings

FREE-FLIGHT INVESTIGATION OF AERODYNAMIC HEAT TRANSFER TO A SIMULATED GLIDE-ROCKET SHAPE AT MACH NUMBERS UP TO 10. Andrew G. Swanson. September 1958. 49p. diagrs., photos., tabs. (NACA RM L58G03) ~~CONFIDENTIAL~~

(1.2.1)
WING SECTIONS

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diagrs., photos., tabs. (NACA RM H58D29) ~~CONFIDENTIAL~~

(1.2.1.2)
SECTION VARIABLES(1.2.1.2.1)
Camber

A TABULATION OF WIND-TUNNEL PRESSURE DATA AT MACH NUMBERS OF 1.61 AND 2.01 FOR FIVE SWEEP WINGS OF THE SAME PLAN FORM BUT DIFFERENT SURFACE SHAPES. Frederick C. Grant. June 1958. 191p. diagrs., tabs. (NACA RM L58D23) ~~CONFIDENTIAL~~

ANALYSIS OF PRESSURE DATA OBTAINED AT TRANSONIC SPEEDS ON A THIN LOW-ASPECT-RATIO CAMBERED DELTA WING-BODY COMBINATION. John P. Mugler, Jr. September 1958. 36p. diagrs., photos. (NACA RM L58F24) ~~CONFIDENTIAL~~

(1.2.1.4)
HIGH-LIFT DEVICES(1.2.1.4.4)
Leading-Edge Flaps

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diagrs., photos., tabs. (NACA RM H58D29) ~~CONFIDENTIAL~~

(1.2.1.6)
BOUNDARY LAYER(1.2.1.6.1)
Characteristics

HEAT TRANSFER TO 0° AND 75° SWEEP BLUNT LEADING EDGES IN FREE FLIGHT AT MACH NUMBERS FROM 1.90 TO 3.07. Robert L. O'Neal and Aleck C. Bond. March 1958. 38p. diagrs., photos. (NACA RM L58A13) ~~CONFIDENTIAL~~

(1.2.1.7)
REYNOLDS NUMBER EFFECTS

AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-AIRPLANE MODEL AND AERODYNAMIC LOADS ON ADJACENT STORES AND MISSILES AT MACH NUMBERS OF 1.57, 1.87, 2.16, AND 2.53. Waldo I. Oehman and Kenneth L. Turner. June 1958. 107p. diagrs., photos., tabs. (NACA RM L58C17) ~~CONFIDENTIAL~~

EXPERIMENTAL INVESTIGATION OF THE EFFECT OF YAW ON RATES OF HEAT TRANSFER TO TRANSVERSE CIRCULAR CYLINDERS IN A 6500-FOOT-PER-SECOND HYPERSONIC AIR STREAM. Bernard E. Cunningham and Samuel Kraus. August 1958. 45p. diagrs., photos. (NACA RM A58E19) ~~CONFIDENTIAL~~

(1.2.1.8)
MACH NUMBER EFFECTS

AN ANALYSIS OF SURFACE PRESSURES AND AERODYNAMIC LOAD DISTRIBUTION OVER THE SWEEP WING OF THE DOUGLAS D-558-II RESEARCH AIRPLANE AT MACH NUMBERS FROM 0.73 TO 1.73. Norman V. Taillon. April 1958. 51p. diagrs., photo., tabs. (NACA RM H58A30) ~~CONFIDENTIAL~~

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diagrs., photos., tabs. (NACA RM H58D29) ~~CONFIDENTIAL~~

~~CONFIDENTIAL~~

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(1) AERODYNAMICS

AIRPLANE CONFIGURATIONS FOR CRUISE AT A MACH NUMBER OF 3. Donald D. Baals, Thomas A. Toll, and Owen G. Morris. August 1958. 22p. diags. (NACA RM L58E14a) **CONFIDENTIAL**

(1.2.2)

COMPLETE WINGS

FLIGHT INVESTIGATION OF THE AERODYNAMIC FORCES ON A WING-MOUNTED EXTERNAL-STORE INSTALLATION ON THE DOUGLAS D-558-II RESEARCH AIRPLANE. Clinton T. Johnson. May 1958. 42p. diags., photos., tabs. (NACA RM H58B24) **CONFIDENTIAL**

(1.2.2.1)

WING THEORY

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEPT OR UNSWEPT WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diags., tabs. (NACA RM L57L10) **CONFIDENTIAL**

TRANSONIC CHARACTERISTICS OF OUTBOARD AILERONS ON A 4-PERCENT-THICK 30° SWEPT-BACK WING, INCLUDING SOME EFFECTS OF AILERON TRAILING-EDGE THICKNESS AND AERODYNAMIC BALANCE. Charles F. Whitcomb and Chris C. Critzos. July 1958. 70p. diags., photos. (NACA RM L58E05) **CONFIDENTIAL**

LONGITUDINAL AND LATERAL AERODYNAMIC CHARACTERISTICS AT COMBINED ANGLES OF ATTACK AND SIDESLIP OF A GENERALIZED MISSILE MODEL HAVING A RECTANGULAR WING AT A MACH NUMBER OF 4.08. Fred M. Smith, Edward F. Ulmann, and Robert W. Dunning. August 1958. 91p. diags., photos., tabs. (NACA RM L58E26) **CONFIDENTIAL**

APPROXIMATE SOLUTIONS FOR THE FLOW ABOUT FLAT-TOP WING-BODY CONFIGURATIONS AT HIGH SUPERSONIC AIRSPEEDS. Raymond C. Savin. September 1958. 69p. diags., tab. (NACA RM A58F02) **CONFIDENTIAL**

(1.2.2.2)

WING VARIABLES

TRANSONIC AERODYNAMIC AND TRIM CHARACTERISTICS OF A MULTI-ENGINE DELTA-WING AIRPLANE MODEL. John M. Swihart and Willard E. Foss, Jr. February 17, 1956. 67p. diags., photos., tabs. (NACA RM L55I27b) **CONFIDENTIAL**

BUFFET TESTS OF AN ATTACK-AIRPLANE MODEL WITH EMPHASIS ON ANALYSIS OF DATA FROM WIND-TUNNEL TESTS. Don D. Davis, Jr., and Dewey E. Wornom. February 1958. 56p. diags., photos., tab. (NACA RM L57H13) **CONFIDENTIAL**

(1.2.2.2.2)

Aspect Ratio

TRANSONIC WIND-TUNNEL INVESTIGATION OF THE EFFECT OF A HORIZONTAL TAIL ON LONGITUDINAL STABILITY OF TWO 60° SWEPTBACK-WING-BODY CONFIGURATIONS WITH ASPECT RATIOS OF 2.67 AND 4.00. Joseph D. Brooks. February 1958. 21p. diags., photo., tabs. (NACA RM L57L11) **CONFIDENTIAL**

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEPT OR UNSWEPT WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diags., tabs. (NACA RM L57L10) **CONFIDENTIAL**

SOME EFFECTS OF MASS RATIO ON THE TRANSONIC FLUTTER CHARACTERISTICS OF UNTAPERED 45° SWEPTBACK WINGS OF ASPECT RATIOS 2 AND 3.5. H. Neale Kelly. June 1958. 19p. diags., tabs. (NACA RM L58D17) **CONFIDENTIAL**

(1.2.2.2.3)

Sweep

TRANSONIC WIND-TUNNEL INVESTIGATION OF THE EFFECT OF A HORIZONTAL TAIL ON LONGITUDINAL STABILITY OF TWO 60° SWEPTBACK-WING-BODY CONFIGURATIONS WITH ASPECT RATIOS OF 2.67 AND 4.00. Joseph D. Brooks. February 1958. 21p. diags., photo., tabs. (NACA RM L57L11) **CONFIDENTIAL**

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEPT OR UNSWEPT WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diags., tabs. (NACA RM L57L10) **CONFIDENTIAL**

THE PROSPECTS FOR LAMINAR FLOW ON HYPERSONIC AIRPLANES. Alvin Selff. June 1958. 17p. diags., photo. (NACA RM A58D25) **CONFIDENTIAL**

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(1) AERODYNAMICS

LOW-SPEED INVESTIGATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION IN SIDESLIP ON THE LATERAL STABILITY DERIVATIVES OF A 60° DELTA WING, A 45° SWEPTBACK WING, AND AN UNSWEPT WING. Jacob H. Lichtenstein and James L. Williams. June 1958. 19p. diagrs., photos. (NACA RM L58B26)
CONFIDENTIAL

SOME EFFECTS OF MASS RATIO ON THE TRANSONIC FLUTTER CHARACTERISTICS OF UNTAPERED 45° SWEPTBACK WINGS OF ASPECT RATIOS 2 AND 3.5. H. Neale Kelly. June 1958. 19p. diagrs., tabs. (NACA RM L58D17)
CONFIDENTIAL

EFFECTS OF WING SWEEP, HORIZONTAL-TAIL CONFIGURATION, AND A VENTRAL FIN ON STATIC STABILITY CHARACTERISTICS OF A MODEL WITH A WING OF ASPECT RATIO 3 AT MACH NUMBERS FROM 2.29 TO 4.65. Byron M. Jaquet and Roger H. Fournier. July 1958. 88p. diagrs., photos., tabs. (NACA RM L58E06)
CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF THE EFFECT OF YAW ON RATES OF HEAT TRANSFER TO TRANSVERSE CIRCULAR CYLINDERS IN A 6500-FOOT-PER-SECOND HYPERSONIC AIR STREAM. Bernard E. Cunningham and Samuel Kraus. August 1958. 45p. diagrs., photos. (NACA RM A58E19)
CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS 2.36 AND 2.87 OF AN AIRPLANE CONFIGURATION HAVING A CAMBERED ARROW WING WITH A 75° SWEPT LEADING EDGE. Joseph M. Hallissy, Jr., and Dennis F. Hasson. August 1958. 63p. diagrs., photos., tabs. (NACA RM L58E21)
CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE EFFECT OF SWEEP AND TAPER RATIO ON EFFECTIVENESS OF SPOILER-SLOT-DEFLECTOR CONTROLS ON ASPECT-RATIO-4 WINGS AT TRANSONIC SPEEDS. Alexander D. Hammond and Linwood W. McKinney. August 1958. 69p. diagrs., tabs. (NACA RM L58E29)
CONFIDENTIAL

(1.2.2.2.4)
Taper and Twist

A TABULATION OF WIND-TUNNEL PRESSURE DATA AT MACH NUMBERS OF 1.61 AND 2.01 FOR FIVE SWEPT WINGS OF THE SAME PLAN FORM BUT DIFFERENT SURFACE SHAPES. Frederick C. Grant. June 1958. 191p. diagr., tabs. (NACA RM L58D23)
CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE EFFECT OF SWEEP AND TAPER RATIO ON EFFECTIVENESS OF SPOILER-SLOT-DEFLECTOR CONTROLS ON ASPECT-RATIO-4 WINGS AT TRANSONIC SPEEDS. Alexander D. Hammond and Linwood W. McKinney. August 1958. 69p. diagrs., tabs. (NACA RM L58E29)
CONFIDENTIAL

(1.2.2.2.5)
Inlets and Exits

FREE-FLIGHT ROLL PERFORMANCE OF A STEADY-FLOW JET-SPOILER CONTROL ON AN 80° DELTA-WING MISSILE BETWEEN MACH NUMBERS OF 0.6 AND 1.8. Eugene D. Schult. January 1958. 35p. diagrs., photos. (NACA RM L57J28)
CONFIDENTIAL

LONGITUDINAL STABILITY INVESTIGATION OF A VERTICAL-TAKE-OFF-AND-LANDING AIRPLANE CONFIGURATION WITH SIMULATED JET INTAKE AND EXHAUST AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. January 1958. 80p. diagrs., photos., tab. (NACA RM L57K05)
CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED STABILITY AND PERFORMANCE CHARACTERISTICS OF A JET-POWERED LOW-ASPECT-RATIO VERTICAL-TAKE-OFF-AND-LANDING CONFIGURATION WITH ENGINES BURIED IN TILTABLE WINGS. William I. Scallion and Clarence D. Cone, Jr. August 1958. 58p. diagrs., photos. (NACA RM L58F02)
CONFIDENTIAL

(1.2.2.2.6)
Surface Conditions

THE PROSPECTS FOR LAMINAR FLOW ON HYPERSONIC AIRPLANES. Alvin Seiff. June 1958. 17p. diagrs., photo. (NACA RM A58D25)
CONFIDENTIAL

BOUNDARY-LAYER-TRANSITION MEASUREMENTS IN FULL-SCALE FLIGHT. Richard D. Banner, John G. McTigue, and Gilbert Petty, Jr. July 1958. 10p. diagrs., photos. (NACA RM H58E28)
CONFIDENTIAL

(1.2.2.2.7)
Dihedral

EFFECTS OF VERTICAL LOCATION OF THE WING AND HORIZONTAL TAIL ON THE STATIC LATERAL AND DIRECTIONAL STABILITY OF A TRAPEZOIDAL-WING AIRPLANE MODEL AT MACH NUMBERS OF 1.41 AND 2.01. Ross B. Robinson. July 1958. 166p. diagrs., tabs. (NACA RM L58C18)
CONFIDENTIAL

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(1) AERODYNAMICS

EXPERIMENTAL INVESTIGATION OF EFFECTS OF WING PLAN FORM AND DIHEDRAL ANGLE ON SIDESLIP DERIVATIVES OF SWEEPBACK-WING-BODY COMBINATIONS AT SUPERSONIC SPEEDS. William B. Boatright. July 1958. 66p. diags., photo., tab. (NACA RM L58E08) **CONFIDENTIAL**

(1. 2. 2. 3) HIGH-LIFT DEVICES

A COMPARISON OF FLIGHT-MEASURED CARRIER-APPROACH SPEEDS WITH VALUES PREDICTED BY SEVERAL DIFFERENT CRITERIA FOR 41 FIGHTER-TYPE AIRPLANE CONFIGURATIONS. Maurice D. White, Bernard A. Schlaff, and Fred J. Drinkwater III. May 1958. 127p. diags., tabs. (NACA RM A57L11) **CONFIDENTIAL**

(1. 2. 2. 3. 1) Trailing-Edge Flaps

EFFECTS OF A LEADING-EDGE SLAT AND A TRAILING-EDGE SPLIT FLAP ON THE AERODYNAMIC CHARACTERISTICS OF A WING-FUSELAGE COMBINATION HAVING A NEARLY TRIANGULAR WING OF ASPECT RATIO 2.9 AT MACH NUMBERS FROM 0.60 TO 0.92. Fred A. Demele. January 1958. 66p. diags., photos., tabs. (NACA RM A57H19) **CONFIDENTIAL**

LARGE-SCALE WIND-TUNNEL TESTS OF AN AIRPLANE MODEL WITH A 45° SWEEPBACK WING OF ASPECT RATIO 2.8 EMPLOYING HIGH-VELOCITY BLOWING OVER THE LEADING- AND TRAILING-EDGE FLAPS. David H. Hickey and Kiyoshi Aoyagi. May 1958. 65p. diags., photos., tabs. (NACA RM A58A09) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DISTRIBUTIONS FOR A SERIES OF TIP AND TRAILING-EDGE CONTROLS ON A 60° DELTA WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord and K. R. Czarnecki. May 1958. ii, 231p. diags., photos., tabs. (NACA RM L58C07) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF HYPERSONIC GLIDERS. Robert W. Rainey. July 1958. 16p. diags., tab. (NACA RM L58E12a) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF THE LOW-SPEED CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-TYPE AIRPLANE WITH BLOWING BOUNDARY-LAYER CONTROL APPLIED TO THE TRAILING-EDGE FLAPS. Hervey C. Quigley, Seth B. Anderson, and Robert C. Innis. August 1958. 50p. diags., photos., tabs. (NACA RM A58E05) **CONFIDENTIAL**

(1. 2. 2. 3. 2) Slots and Slats

EFFECTS OF A LEADING-EDGE SLAT AND A TRAILING-EDGE SPLIT FLAP ON THE AERODYNAMIC CHARACTERISTICS OF A WING-FUSELAGE COMBINATION HAVING A NEARLY TRIANGULAR WING OF ASPECT RATIO 2.9 AT MACH NUMBERS FROM 0.60 TO 0.92. Fred A. Demele. January 1958. 66p. diags., photos., tabs. (NACA RM A57H19) **CONFIDENTIAL**

FLIGHT EVALUATION OF THE EFFECTS OF LEADING-EDGE-SLAT SPAN ON THE STABILITY AND CONTROL CHARACTERISTICS OF A SWEEP-WING FIGHTER-TYPE AIRPLANE DURING ACCELERATED LONGITUDINAL MANEUVERS AT TRANSONIC SPEEDS. Gene J. Matranga and Katharine H. Armistead. March 1958. 46p. diags., photo., tab. (NACA RM H58A03a) **CONFIDENTIAL**

(1. 2. 2. 3. 3) Leading-Edge Flaps

AERODYNAMIC LOAD DISTRIBUTION ON A 45° SWEEPBACK WING WITH LEADING-EDGE CHORD-EXTENSIONS AT TRANSONIC SPEEDS, INCLUDING EFFECTS OF A SPOILER-SLOT-DEFLECTOR AILERON. James W. Schmeer, Charles F. Whitcomb, and F. E. West, Jr. February 1958. 78p. diags., tabs. (NACA RM L57L02) **CONFIDENTIAL**

LARGE-SCALE WIND-TUNNEL TESTS OF AN AIRPLANE MODEL WITH A 45° SWEEPBACK WING OF ASPECT RATIO 2.8 EMPLOYING HIGH-VELOCITY BLOWING OVER THE LEADING- AND TRAILING-EDGE FLAPS. David H. Hickey and Kiyoshi Aoyagi. May 1958. 65p. diags., photos., tabs. (NACA RM A58A09) **CONFIDENTIAL**

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diags., photos., tabs. (NACA RM H58D29) **CONFIDENTIAL**

(1. 2. 2. 4) CONTROLS

TRANSONIC FLUTTER INVESTIGATION OF TWO 50° SEMISPAN MODIFIED-DELTA WINGS WITH TIP AILERONS. Robert J. Platt, Jr. February 1958. 18p. diags., photos., tabs. (NACA RM L57J14a) **CONFIDENTIAL**

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(1) AERODYNAMICS

INVESTIGATION OF FLUTTER CHARACTERISTICS OF THREE LOW-ASPECT-RATIO ALL-MOVABLE HALF-SPAN CONTROL SURFACES AT MACH NUMBERS FROM 1.49 TO 2.87. Homer G. Morgan, Irving E. Figge, and John G. Presnell, Jr. May 1958. 35p. diagrs., photos., tabs. (NACA RM L58B20) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DISTRIBUTIONS FOR A SERIES OF TIP AND TRAILING-EDGE CONTROLS ON A 60° DELTA WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord and K. R. Czarnecki. May 1958. 11, 231p. diagrs., photos., tabs. (NACA RM L58C07) **CONFIDENTIAL**

AIRPLANE CONFIGURATIONS FOR CRUISE AT A MACH NUMBER OF 3. Donald D. Baals, Thomas A. Toll, and Owen G. Morris. August 1958. 22p. diagrs. (NACA RM L58E14a) **CONFIDENTIAL**

(1.2.2.4.1)
Flap Type

EFFECT OF CONTROL TRAILING-EDGE THICKNESS OR ASPECT RATIO ON THE OSCILLATING HINGE-MOMENT AND FLUTTER CHARACTERISTICS OF A FLAP-TYPE CONTROL AT TRANSONIC SPEEDS. William C. Moseley, Jr., and Robert F. Thompson. April 1958. 43p. diagrs., photo., tabs. (NACA RM L58B25) **CONFIDENTIAL**

EFFECTS OF MODIFICATIONS TO A CONTROL SURFACE ON A 6-PERCENT-THICK UNSWEPT WING ON THE TRANSONIC CONTROL-SURFACE FLUTTER DERIVATIVES. John A. Wyss, Robert M. Sorenson, and Bruno J. Gambucci. May 1958. 61p. diagrs., photos., tabs. (NACA RM A58B04) **CONFIDENTIAL**

SOME EFFECTS OF FLOW SPOILERS AND OF AERODYNAMIC BALANCE ON THE OSCILLATING HINGE MOMENTS FOR A SWEEP FIN-RUDDER COMBINATION IN A TRANSONIC WIND TUNNEL. Robert W. Herr, Frederick W. Gibson, and Robert S. Osborne. May 1958. 31p. diagrs., photos. (NACA RM L58C28) **CONFIDENTIAL**

TRANSONIC CHARACTERISTICS OF OUTBOARD AILERONS ON A 4-PERCENT-THICK 30° SWEEPBACK WING, INCLUDING SOME EFFECTS OF AILERON TRAILING-EDGE THICKNESS AND AERODYNAMIC BALANCE. Charles F. Whitcomb and Chris C. Critzos. July 1958. 70p. diagrs., photos. (NACA RM L58E05) **CONFIDENTIAL**

A WIND-TUNNEL INVESTIGATION OF THE WING LOADS DUE TO DEFLECTED INBOARD AILERONS ON A 45° SWEEPBACK WING AT TRANSONIC SPEEDS. Atwood R. Heath, Jr., and Ann W. Igoe. July 1958. 101p. diagrs., photos., tabs. (NACA RM L58E12) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF HYPER-SONIC GLIDERS. Robert W. Rainey. July 1958. 16p. diagrs., tab. (NACA RM L58E12a) **CONFIDENTIAL**

PRELIMINARY AERODYNAMIC DATA PERTINENT TO MANNED SATELLITE REENTRY CONFIGURATIONS. Jim A. Penland and William O. Armstrong. July 1958. 16p. diagrs. (NACA RM L58E13a) **CONFIDENTIAL**

(1.2.2.4.2)
Spoilers

FREE-FLIGHT ROLL PERFORMANCE OF A STEADY-FLOW JET-SPOILER CONTROL ON AN 80° DELTA-WING MISSILE BETWEEN MACH NUMBERS OF 0.6 AND 1.8. Eugene D. Schult. January 1958. 35p. diagrs., photos. (NACA RM L57J28) **CONFIDENTIAL**

AERODYNAMIC LOAD DISTRIBUTION ON A 45° SWEEPBACK WING WITH LEADING-EDGE CHORD-EXTENSIONS AT TRANSONIC SPEEDS, INCLUDING EFFECTS OF A SPOILER-SLOT-DEFLECTOR AILERON. James W. Schmeer, Charles F. Whitcomb, and F. E. West, Jr. February 1958. 78p. diagrs., tabs. (NACA RM L57L02) **CONFIDENTIAL**

STATIC LONGITUDINAL AND LATERAL STABILITY AND CONTROL CHARACTERISTICS OF A MODEL OF A SWEEP-WING FIGHTER-BOMBER-TYPE AIRPLANE WITH A TOP INLET AT MACH NUMBERS FROM 1.6 TO 2.35. A. Vernon Gnos and Richard L. Kurkowski. March 1958. 55p. diagrs., photos., tab. (NACA RM A57K20) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF SEVERAL JET-SPOILER CONTROLS ON A 45° SWEEPBACK WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. June 1958. 93p. diagrs., tab. (NACA RM L58D18) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION OF THE EFFECT OF SWEEP AND TAPER RATIO ON EFFECTIVENESS OF SPOILER-SLOT-DEFLECTOR CONTROLS ON ASPECT-RATIO-4 WINGS AT TRANSONIC SPEEDS. Alexander D. Hammond and Linwood W. McKinney. August 1958. 69p. diagrs., tabs. (NACA RM L58E29) **CONFIDENTIAL**

(1.2.2.4.3)
All-Movable

TRANSONIC LATERAL AND LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A LATERAL-CONTROL SYSTEM EMPLOYING ROTATABLE AIRFOILS MOUNTED VERTICALLY AT THE WING TIPS OF AN UNSWEPT WING-FUSELAGE-TAIL COMBINATION. John A. Axelson. January 1958. 43p. diagrs., photos. (NACA RM A57J16) **CONFIDENTIAL**

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(1) AERODYNAMICS

EVALUATION OF SOME AERODYNAMIC CONTROLS FOR A LOW-ASPECT-RATIO MISSILE. Warren Winovich and Nancy S. Higdon. July 1958. 12p. diags. (NACA RM A58D17b) **CONFIDENTIAL**

(1.2.2.5)

REYNOLDS NUMBER EFFECTS

EFFECTS OF A LEADING-EDGE SLAT AND A TRAILING-EDGE SPLIT FLAP ON THE AERODYNAMIC CHARACTERISTICS OF A WING-FUSELAGE COMBINATION HAVING A NEARLY TRIANGULAR WING OF ASPECT RATIO 2.9 AT MACH NUMBERS FROM 0.60 TO 0.92. Fred A. Demele. January 1958. 66p. diags., photos., tabs. (NACA RM A57H19) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DISTRIBUTIONS FOR A SERIES OF TIP AND TRAILING-EDGE CONTROLS ON A 60° DELTA WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord and K. R. Czarnecki. May 1958. 11, 231p. diags., photos., tabs. (NACA RM L58C07) **CONFIDENTIAL**

FORCES AND PITCHING MOMENTS ON AN ASPECT-RATIO-3.1 WING-BODY COMBINATION AT MACH NUMBERS FROM 2.5 TO 3.5 AND SUBLIMATION STUDIES OF THE EFFECT OF SINGLE-ELEMENT ROUGHNESS ON THE BOUNDARY-LAYER FLOW. Edward J. Hopkins, Stephen J. Keating, Jr., and Richard R. Muhl. August 1958. 21p. diags., photos. (NACA RM A58E21a) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS FROM 2.5 TO 3.5 OF A CANARD BOMBER CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Melvin M. Carmel, Thomas C. Kelly, and Donald T. Gregory. September 1958. 53p. diags., photos., tabs. (NACA RM L58G16) **CONFIDENTIAL**
(Title. Confidential)

(1.2.2.6)

MACH NUMBER EFFECTS

EFFECTS OF A LEADING-EDGE SLAT AND A TRAILING-EDGE SPLIT FLAP ON THE AERODYNAMIC CHARACTERISTICS OF A WING-FUSELAGE COMBINATION HAVING A NEARLY TRIANGULAR WING OF ASPECT RATIO 2.9 AT MACH NUMBERS FROM 0.60 TO 0.92. Fred A. Demele. January 1958. 66p. diags., photos., tabs. (NACA RM A57H19) **CONFIDENTIAL**

FREE-FLIGHT ROLL PERFORMANCE OF A STEADY-FLOW JET-SPOILER CONTROL ON AN 80° DELTA-WING MISSILE BETWEEN MACH NUMBERS OF 0.6 AND 1.8. Eugene D. Schult. January 1958. 35p. diags., photos. (NACA RM L57J28) **CONFIDENTIAL**

BUFFET TESTS OF AN ATTACK-AIRPLANE MODEL WITH EMPHASIS ON ANALYSIS OF DATA FROM WIND-TUNNEL TESTS. Don D. Davis, Jr., and Dewey E. Wornom. February 1958. 56p. diags., photos., tabs. (NACA RM L57H13) **CONFIDENTIAL**

TRANSONIC FLUTTER INVESTIGATION OF TWO 50° SEMISPAN MODIFIED-DELTA WINGS WITH TIP AILERONS. Robert J. Platt, Jr. February 1958. 18p. diags., photos., tabs. (NACA RM L57J14a) **CONFIDENTIAL**

EFFECT AT HIGH SUBSONIC SPEEDS OF FUSELAGE FOREBODY STRAKES ON THE STATIC STABILITY AND VERTICAL-TAIL-LOAD CHARACTERISTICS OF A COMPLETE MODEL HAVING A DELTA WING. Edward C. Polhamus and Kenneth P. Spreemann. February 1958. 32p. diags., photo. (NACA RM L57K15a) **CONFIDENTIAL**

AERODYNAMIC LOAD DISTRIBUTION ON A 45° SWEEPBACK WING WITH LEADING-EDGE CHORD-EXTENSIONS AT TRANSONIC SPEEDS, INCLUDING EFFECTS OF A SPOILER-SLOT-DEFLECTOR AILERON. James W. Schmeer, Charles F. Whitcomb, and F. E. West, Jr. February 1958. 78p. diags., tabs. (NACA RM L57L02) **CONFIDENTIAL**

TRANSONIC WIND-TUNNEL INVESTIGATION OF THE EFFECT OF A HORIZONTAL TAIL ON LONGITUDINAL STABILITY OF TWO 60° SWEEPBACK-WING-BODY CONFIGURATIONS WITH ASPECT RATIOS OF 2.67 AND 4.00. Joseph D. Brooks. February 1958. 21p. diags., photo., tabs. (NACA RM L57L11) **CONFIDENTIAL**

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEEP OR UNSWEEP WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diags., tabs. (NACA RM L57L10) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OVER A MACH NUMBER RANGE OF 1.40 TO 2.78 OF A ROCKET-PROPELLED AIRPLANE CONFIGURATION HAVING A LOW 52.5° DELTA WING AND AN UNSWEEP HORIZONTAL TAIL. Alan B. Kehlet. March 1958. 26p. diags., photos., tabs. (NACA RM L58A23) **CONFIDENTIAL**

ANALYSIS OF FLIGHT-DETERMINED AND PREDICTED EFFECTS OF FLEXIBILITY ON THE STEADY-STATE WING LOADS OF THE B-52 AIRPLANE. Albert E. Kuhl, John T. Rogers, and Mary V. Little. April 1958. 57p. diags., photo., tab. (NACA RM H57C25) **CONFIDENTIAL**

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(1) AERODYNAMICS

AN ANALYSIS OF SURFACE PRESSURES AND AERODYNAMIC LOAD DISTRIBUTION OVER THE SWEEP WING OF THE DOUGLAS D-558-II RESEARCH AIRPLANE AT MACH NUMBERS FROM 0.73 TO 1.73. Norman V. Taillon. April 1958. 51p. diagrs., photo., tabs. (NACA RM H58A30)
CONFIDENTIAL

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE SWEEPBACK WING OF A FIGHTER AIRPLANE. Samuel L. Smith III and Robert W. Boswinkle, Jr. April 1958. 26p. diagrs., photos., tabs. (NACA RM L58A15)
CONFIDENTIAL

EFFECT OF CONTROL TRAILING-EDGE THICKNESS OR ASPECT RATIO ON THE OSCILLATING HINGE-MOMENT AND FLUTTER CHARACTERISTICS OF A FLAP-TYPE CONTROL AT TRANSONIC SPEEDS. William C. Moseley, Jr., and Robert F. Thompson. April 1958. 43p. diagrs., photo., tabs. (NACA RM L58B25)
CONFIDENTIAL

EFFECTS OF MODIFICATIONS TO A CONTROL SURFACE ON A 6-PERCENT-THICK UNSWEPT WING ON THE TRANSONIC CONTROL-SURFACE FLUTTER DERIVATIVES. John A. Wyss, Robert M. Sorenson, and Bruno J. Gambucci. May 1958. 61p. diagrs., photos., tabs. (NACA RM A58B04)
CONFIDENTIAL

ANALYSIS OF PRESSURE DISTRIBUTIONS FOR A SERIES OF TIP AND TRAILING-EDGE CONTROLS ON A 60° DELTA WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord and K. R. Czarnecki. May 1958. ii, 231p. diagrs., photos., tabs. (NACA RM L58C07)
CONFIDENTIAL

TRANSONIC INVESTIGATION OF YAWED WINGS OF ASPECT RATIOS 3 AND 6 WITH A SEARS-HAACK BODY AND WITH SYMMETRICAL AND ASYMMETRICAL BODIES INDENTED FOR A MACH NUMBER OF 1.20. George H. Holdaway and Elaine W. Hatfield. June 1958. 111p. diagrs., photos., tabs. (NACA RM A58C03)
CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF THE DRAG DUE TO WEDGES ALONG THE TRAILING EDGE OF A SWEEP WING. Bruno J. Gambucci and John A. Wyss. June 1958. 15p. diagrs., photos. (NACA RM A58D15)
CONFIDENTIAL

THE PROSPECTS FOR LAMINAR FLOW ON HYPERSONIC AIRPLANES. Alvin Seiff. June 1958. 17p. diagrs., photo. (NACA RM A58D25)
CONFIDENTIAL

SOME EFFECTS OF MASS RATIO ON THE TRANSONIC FLUTTER CHARACTERISTICS OF UNTAPERED 45° SWEEPBACK WINGS OF ASPECT RATIOS 2 AND 3.5. H. Neale Kelly. June 1958. 19p. diagrs., tabs. (NACA RM L58D17)
CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS OF SEVERAL JET-SPOILER CONTROLS ON A 45° SWEEPBACK WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. June 1958. 93p. diagrs., tab. (NACA RM L58D18)
CONFIDENTIAL

EVALUATION OF SOME AERODYNAMIC CONTROLS FOR A LOW-ASPECT-RATIO MISSILE. Warren Winovich and Nancy S. Higdon. July 1958. 12p. diagrs. (NACA RM A58D17b)
CONFIDENTIAL

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diagrs., photos., tabs. (NACA RM H58D29)
CONFIDENTIAL

BOUNDARY-LAYER-TRANSITION MEASUREMENTS IN FULL-SCALE FLIGHT. Richard D. Banner, John G. McTigue, and Gilbert Petty, Jr. July 1958. 10p. diagrs., photos. (NACA RM H58E28)
CONFIDENTIAL

TRANSONIC CHARACTERISTICS OF OUTBOARD AILERONS ON A 4-PERCENT-THICK 30° SWEEPBACK WING, INCLUDING SOME EFFECTS OF AILERON TRAILING-EDGE THICKNESS AND AERODYNAMIC BALANCE. Charles F. Whitcomb and Chris C. Critzos. July 1958. 70p. diagrs., photos. (NACA RM L58E05)
CONFIDENTIAL

EFFECTS OF WING SWEEP, HORIZONTAL-TAIL CONFIGURATION, AND A VENTRAL FIN ON STATIC STABILITY CHARACTERISTICS OF A MODEL WITH A WING OF ASPECT RATIO 3 AT MACH NUMBERS FROM 2.29 TO 4.65. Byron M. Jaquet and Roger H. Fournier. July 1958. 88p. diagrs., photos., tabs. (NACA RM L58E06)
CONFIDENTIAL

A WIND-TUNNEL INVESTIGATION OF THE WING LOADS DUE TO DEFLECTED INBOARD AILERONS ON A 45° SWEEPBACK WING AT TRANSONIC SPEEDS. Atwood R. Heath, Jr., and Ann W. Igoo. July 1958. 101p. diagrs., photos., tabs. (NACA RM L58E12)
CONFIDENTIAL

FORCES AND PITCHING MOMENTS ON AN ASPECT-RATIO-3.1 WING-BODY COMBINATION AT MACH NUMBERS FROM 2.5 TO 3.5 AND SUBLIMATION STUDIES OF THE EFFECT OF SINGLE-ELEMENT ROUGHNESS ON THE BOUNDARY-LAYER FLOW. Edward J. Hopkins, Stephen J. Keating, Jr., and Richard R. Muhl. August 1958. 21p. diagrs., photos. (NACA RM A58E21a)
CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE EFFECT OF SWEEP AND TAPER RATIO ON EFFECTIVENESS OF SPOILER-SLOT-DEFLECTOR CONTROLS ON ASPECT-RATIO-4 WINGS AT TRANSONIC SPEEDS. Alexander D. Hammond and Linwood W. McKinney. August 1958. 69p. diagrs., tabs. (NACA RM L58E29)
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(1) AERODYNAMICS

ANALYSIS OF PRESSURE DATA OBTAINED AT
TRANSONIC SPEEDS ON A THIN LOW-ASPECT-
RATIO CAMBERED DELTA WING-BODY COMBI-
NATION. John P. Mugler, Jr. September 1958.
36p. diags., photos. (NACA RM L58F24)

CONFIDENTIAL

ROCKET-MODEL INVESTIGATION TO DETER-
MINE THE LIFT AND PITCHING EFFECTIVENESS
OF SMALL PULSE ROCKETS EXHAUSTED FROM
THE FUSELAGE OVER THE SURFACE OF AN
ADJACENT WING AT MACH NUMBERS FROM 0.9
TO 1.8. C. William Martz. September 1958. 22p.
diags., photos. (NACA RM L58G29)

CONFIDENTIAL

(1.2.2.8)
BOUNDARY LAYER

THE PROSPECTS FOR LAMINAR FLOW ON
HYPERSONIC AIRPLANES. Alvin Seiff. June 1958.
17p. diags., photo. (NACA RM A58D25)

CONFIDENTIAL

BOUNDARY-LAYER-TRANSITION MEASUREMENTS
IN FULL-SCALE FLIGHT. Richard D. Banner,
John G. McTigue, and Gilbert Petty, Jr. July 1958.
10p. diags., photos. (NACA RM H58E28)

CONFIDENTIAL

(1.2.2.8.1)
Characteristics

FORCES AND PITCHING MOMENTS ON AN ASPECT-
RATIO-3.1 WING-BODY COMBINATION AT MACH
NUMBERS FROM 2.5 TO 3.5 AND SUBLIMATION
STUDIES OF THE EFFECT OF SINGLE-ELEMENT
ROUGHNESS ON THE BOUNDARY-LAYER FLOW.
Edward J. Hopkins, Stephen J. Keating, Jr., and
Richard R. Muhl. August 1958. 21p. diags.,
photos. (NACA RM A58E21a)

CONFIDENTIAL

(1.2.2.8.2)
Control

A COMPARISON OF FLIGHT-MEASURED CARRIER-
APPROACH SPEEDS WITH VALUES PREDICTED BY
SEVERAL DIFFERENT CRITERIA FOR 41 FIGHTER-
TYPE AIRPLANE CONFIGURATIONS. Maurice D.
White, Bernard A. Schlaff, and Fred J. Drinkwater
III. May 1958. 127p. diags., tabs.
(NACA RM A57L11)

CONFIDENTIAL

LARGE-SCALE WIND-TUNNEL TESTS OF AN AIR-
PLANE MODEL WITH A 45° SWEEPBACK WING OF
ASPECT RATIO 2.8 EMPLOYING HIGH-VELOCITY
BLOWING OVER THE LEADING- AND TRAILING-
EDGE FLAPS. David H. Hickey and Kiyoshi
Aoyagi. May 1958. 65p. diags., photos., tabs.
(NACA RM A58A09)

CONFIDENTIAL

FLIGHT INVESTIGATION OF THE LOW-SPEED
CHARACTERISTICS OF A 45° SWEEP-WING
FIGHTER-TYPE AIRPLANE WITH BLOWING
BOUNDARY-LAYER CONTROL APPLIED TO THE
TRAILING-EDGE FLAPS. Hervey C. Quigley, Seth
B. Anderson, and Robert C. Innis. August 1958.
50p. diags., photos., tabs. (NACA RM A58E05)

CONFIDENTIAL

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(1) AERODYNAMICS

(1.3)
Bodies

AN INITIAL EXPERIMENTAL STUDY OF THE EFFECT OF VARIATIONS IN FREQUENCY AND IMPULSE ON THE REDUCTION IN TEMPERATURE RECOVERY FACTOR AFFORDED BY LARGE-SCALE UNSTEADY FLOW. Robert R. Howell. January 1958. 23p. diagrs., photo., tab. (NACA RM L57I27)

CONFIDENTIAL

FREE-FLIGHT PRESSURE MEASUREMENTS OVER A FLARE-STABILIZED ROCKET MODEL WITH A MODIFIED VON KARMAN NOSE FOR MACH NUMBERS UP TO 4.3. William M. Bland, Jr., and Ronald Kolenkiewicz. January 1958. 21p. diagrs., photos., tabs. (NACA RM L57J24)

CONFIDENTIAL

FREE-FLIGHT AERODYNAMIC-HEATING DATA AT MACH NUMBERS UP TO 10.9 ON A FLAT-FACED CYLINDER. William M. Bland, Jr., Andrew G. Swanson, and Ronald Kolenkiewicz. January 1958. 46p. diagrs., photos., tabs. (NACA RM L57K29)

CONFIDENTIAL

HEAT TRANSFER MEASURED ON A FLAT-FACE CYLINDER-FLARE CONFIGURATION IN FREE FLIGHT AT MACH NUMBERS FROM 1.6 TO 2.7. Dorothy B. Lee and Andrew G. Swanson. February 1958. 33p. diagrs., photos., tabs. (NACA RM L58A06)

CONFIDENTIAL

PRELIMINARY AERODYNAMIC DATA PERTINENT TO MANNED SATELLITE REENTRY CONFIGURATIONS. Jim A. Penland and William O. Armstrong. July 1958. 16p. diagrs. (NACA RM L58E13a)

CONFIDENTIAL

HEAT TRANSFER MEASURED IN FREE FLIGHT ON A SLIGHTLY BLUNTED 25° CONE-CYLINDER-FLARE CONFIGURATION AT MACH NUMBERS UP TO 9.89. Dorothy B. Lee, Charles B. Rumsey, and Aleck C. Bond. September 1958. 63p. diagrs., photos., tabs. (NACA RM L58G21)

CONFIDENTIAL

(1.3.1)
THEORY

APPROXIMATE SOLUTIONS FOR THE FLOW ABOUT FLAT-TOP WING-BODY CONFIGURATIONS AT HIGH SUPERSONIC AIRSPEEDS. Raymond C. Savin. September 1958. 69p. diagrs., tab. (NACA RM A58F02)

CONFIDENTIAL

(1.3.2)
SHAPE VARIABLES

SOME EFFECTS OF REYNOLDS NUMBER ON THE STABILITY OF A SERIES OF FLARED-BODY AND BLUNTED-CONE MODELS AT MACH NUMBERS FROM 1.62 TO 6.86. Alan B. Kehlet. January 1958. 35p. diagrs., photos., tabs. (NACA RM L57J29)

CONFIDENTIAL

A WIND-TUNNEL INVESTIGATION OF SEVERAL WINGLESS MISSILE CONFIGURATIONS AT SUPER-SONIC SPEEDS. David E. Reese, Jr. February 1958. 51p. diagrs., photos., tabs. (NACA RM A57J22)

CONFIDENTIAL

BEHAVIOR OF SOME MATERIALS AND SHAPES IN SUPERSONIC FREE JETS AT STAGNATION TEMPERATURES UP TO 4,210° F, AND DESCRIPTIONS OF THE JETS. E. M. Fields, Russell N. Hopko, Robert L. Swain, and Otto F. Trout, Jr. February 1958. 59p. diagrs., photos., tabs. (NACA RM L57K26)

CONFIDENTIAL

A FEASIBILITY STUDY OF THE FLARE-CYLINDER CONFIGURATION AS A REENTRY BODY SHAPE FOR AN INTERMEDIATE RANGE BALLISTIC MISSILE. James R. Hall and Benjamin J. Garland. May 1958. 23p. diagrs. (NACA RM L58C21)

CONFIDENTIAL

AN EXPERIMENTAL INVESTIGATION OF THE STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A WINGLESS MISSILE CONFIGURATION AT MACH NUMBERS FROM 3.0 TO 6.3. Hermilo R. Gloria. June 1958. 29p. diagrs., photos., tabs. (NACA RM A58C20)

CONFIDENTIAL

AERODYNAMIC HEATING OF BLUNT NOSE SHAPES AT MACH NUMBERS UP TO 14. William E. Stoney, Jr. August 1958. 18p. diagrs., photo., film suppl. available on request. (NACA RM L58E05a)

CONFIDENTIAL

APPROXIMATE SOLUTIONS FOR THE FLOW ABOUT FLAT-TOP WING-BODY CONFIGURATIONS AT HIGH SUPERSONIC AIRSPEEDS. Raymond C. Savin. September 1958. 69p. diagrs., tab. (NACA RM A58F02)

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(1) AERODYNAMICS

ANALYSIS OF PRESSURE DATA OBTAINED AT TRANSONIC SPEEDS ON A THIN LOW-ASPECT-RATIO CAMBERED DELTA WING-BODY COMBINATION. John P. Mugler, Jr. September 1958. 36p. diagrs., photos. (NACA RM L58F24)

CONFIDENTIAL

(1.3.2.1)

FINENESS RATIO

INVESTIGATION OF TWO BLUFF SHAPES IN AXIAL FREE FLIGHT OVER A MACH NUMBER RANGE FROM 0.35 TO 2.15. Lucille C. Coltrane. March 1958. 33p. diagrs., photos., tabs. (NACA RM L58A16)

CONFIDENTIAL

STABILITY INVESTIGATION OF A BLUNT CONE AND A BLUNT CYLINDER WITH A SQUARE BASE AT MACH NUMBERS FROM 0.64 TO 2.14. Lucille C. Coltrane. September 1958. 32p. diagrs., photos., tabs. (NACA RM L58G24)

CONFIDENTIAL

(1.3.2.2)

CROSS SECTION

EFFECTS OF NOSE AND AFTERBODY MODIFICATIONS ON AERODYNAMIC CHARACTERISTICS OF A BODY WITH AND WITHOUT A VERTICAL TAIL AT A MACH NUMBER OF 2.01. Gerald V. Foster. April 1958. 85p. diagrs., photos., tabs. (NACA RM L58A10)

CONFIDENTIAL

EFFECTS OF BOATTAIL AREA CONTOURING AND SIMULATED TURBOJET EXHAUST ON THE LOADING AND FUSELAGE-TAIL COMPONENT DRAG OF A TWIN-ENGINE FIGHTER-TYPE AIRPLANE MODEL. Willard E. Foss, Jr., Jack F. Runckel, and Edwin E. Lee, Jr. July 1958. 62p. diagrs., photos., tabs. (NACA RM L58C04)

CONFIDENTIAL

(1.3.2.5)

PROTUBERANCES

SOME EXPERIMENTAL HEATING DATA ON CONVEX AND CONCAVE HEMISPHERICAL NOSE SHAPES AND HEMISPHERICAL DEPRESSIONS ON A 30° BLUNTED NOSE CONE. Russell N. Hopko and H. Kurt Strass. March 1958. 32p. diagrs., photos. (NACA RM L58A17a)

CONFIDENTIAL

(1.3.4)

DUCTED BODIES

WIND-TUNNEL INVESTIGATION OF THE EFFECTS OF LIP GEOMETRY ON DRAG AND PRESSURE RECOVERY OF A NORMAL-SHOCK NOSE INLET ON A BODY OF REVOLUTION AT MACH NUMBERS OF 1.41 AND 1.81. A. Warner Robins. February 1958. 96p. diagrs., photos., tabs. (NACA RM L57K08)

CONFIDENTIAL

AERODYNAMIC AND INLET-FLOW-FIELD CHARACTERISTICS AT A FREE-STREAM MACH NUMBER OF 3.0 FOR AIRPLANES WITH CIRCULAR FUSELAGE CROSS SECTIONS AND FOR TWO ENGINE LOCATIONS. Murray Dryer and Roger W. Luidens. March 1958. 32p. diagrs., tab. (NACA RM E57K26)

CONFIDENTIAL

(1.3.4.1)

NOSE SHAPE

FREE-FLIGHT INVESTIGATION TO DETERMINE THE INLET EXTERNAL DRAG OF FOUR INLET MODELS AT MACH NUMBERS FROM 1.50 TO 3.00. Walter L. Kouyoumjian. April 1958. 25p. diagrs., photos., tabs. (NACA RM L58B04)

CONFIDENTIAL

INDUCTION SYSTEM CHARACTERISTICS AND ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-TYPE AIRPLANES. Terry J. Larson, George M. Thomas, and Donald R. Bellman. May 1958. 36p. diagrs., photos., tab. (NACA RM H58C14)

CONFIDENTIAL

(1.3.4.3)

SIDE INLETS

INVESTIGATION OF CONTROL SIGNALS FOR VARIABLE RAMPS OF TWIN-DUCT SIDE INLETS. Milton A. Beheim and Richard A. Yeager. January 1958. 43p. diagrs., photo. (NACA RM E57G22)

CONFIDENTIAL

PERFORMANCE OF AN INLET HAVING A VARIABLE-ANGLE TWO-DIMENSIONAL COMPRESSION SURFACE AND A FIXED-GEOMETRY SUBSONIC DIFFUSER FOR APPLICATION TO REDUCED ENGINE ROTATIVE SPEEDS: MACH NUMBERS 0.66, 1.5, 1.7, AND 2.0. John L. Allen. January 1958. 29p. diagrs., photos. (NACA RM E57J02)

CONFIDENTIAL

INVESTIGATION OF AN UNDERSLUNG HALF-CONE INLET WITH COMPRESSION SURFACE MOUNTED OUTBOARD FROM FUSELAGE AT MACH NUMBERS OF 1.5, 1.8, AND 2.0. Richard A. Yeager and Laurence W. Gertsma. May 1958. 16p. diagrs., photos. (NACA RM E58A27b)

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(1) AERODYNAMICS

INDUCTION SYSTEM CHARACTERISTICS AND
ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-
TYPE AIRPLANES. Terry J. Larson, George M.
Thomas, and Donald R. Bellman. May 1958. 36p.
diags., photos., tab. (NACA RM H58C14)

CONFIDENTIAL

(1.3.4.4)
SIDE EXITS

INVESTIGATION OF FIXED-GEOMETRY SUPER-
SONIC INLETS WITH BYPASS DUCTS FOR MATCH-
ING TURBOJET-ENGINE AIR-FLOW REQUIRE-
MENTS OVER A RANGE OF TRANSONIC AND
SUPERSONIC SPEEDS. Abraham Leiss and
Walter L. Kouyoumjian. February 1958. 40p.
diags., photos., tabs. (NACA RM L57K14)

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(1) AERODYNAMICS

(1.4)

Internal Aerodynamics

ANALYSIS OF TRANSONIC ROTOR-BLADE PASSAGE LOSS WITH HOT-WIRE ANEMOMETERS. George W. Lewis, Edward R. Tysl, and Theodore E. Fessler. June 1958. 28p. diagrs., photos. (NACA RM E58C04) **CONFIDENTIAL**

PERFORMANCE OF MULTIPLE JET-EXIT INSTALLATIONS. John M. Suhart and William J. Nelson. July 1958. 13p. diagrs., photos. (NACA RM L58E01) **CONFIDENTIAL**

(1.4.1)

AIR INLETS

INVESTIGATION OF FIXED-GEOMETRY SUPERSONIC INLETS WITH BYPASS DUCTS FOR MATCHING TURBOJET-ENGINE AIR-FLOW REQUIREMENTS OVER A RANGE OF TRANSONIC AND SUPERSONIC SPEEDS. Abraham Leiss and Walter L. Kouyoumjian. February 1958. 40p. diagrs., photos., tabs. (NACA RM L57K14) **CONFIDENTIAL**

SURVEY OF SUPERSONIC INLETS FOR HIGH MACH NUMBER APPLICATIONS. James F. Connors and John L. Allen. April 1958. 20p. diagrs., photos., tabs. (NACA RM E58A20) **CONFIDENTIAL**

PERFORMANCE AT MACH NUMBERS 3.07, 1.89, AND 0 OF INLETS DESIGNED FOR INLET-ENGINE MATCHING UP TO MACH 3. L. W. Gertsma and M. A. Beheim. May 1958. 49p. diagrs., photos. (NACA RM E58B13) **CONFIDENTIAL**

EFFECT OF SPIKE-TIP AND COWL-LIP BLUNTING ON INLET PERFORMANCE OF A MACH 3.0 EXTERNAL-COMPRESSION INLET. R. W. Cubbison and N. E. Samanich. September 1958. 19p. diagrs., photos. (NACA RM E58G02a) **CONFIDENTIAL**

A PIVOTING-COWL-AND-SPIKE TECHNIQUE FOR EFFICIENT ANGLE-OF-ATTACK OPERATION OF SUPERSONIC INLETS. Nick E. Samanich and Robert W. Cubbison. September 1958. 20p. diagrs., photos. (NACA RM E58G11a) **CONFIDENTIAL**

(1.4.1.1)
NOSE, CENTRAL

EXPERIMENTAL INVESTIGATION OF DISTORTION REMOVAL CHARACTERISTICS OF SEVERAL FREE-WHEELING FANS. Harold H. Valentine and William T. Beale. January 1958. 37p. diagrs., photos. (NACA RM E57I12) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION OF THE EFFECTS OF LIP GEOMETRY ON DRAG AND PRESSURE RECOVERY OF A NORMAL-SHOCK NOSE INLET ON A BODY OF REVOLUTION AT MACH NUMBERS OF 1.41 AND 1.81. A. Warner Robins. February 1958. 96p. diagrs., photos., tabs. (NACA RM L57K08) **CONFIDENTIAL**

(1.4.1.1.2)
Subsonic

INDUCTION SYSTEM CHARACTERISTICS AND ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-TYPE AIRPLANES. Terry J. Larson, George M. Thomas, and Donald R. Bellman. May 1958. 36p. diagrs., photos., tab. (NACA RM H58C14) **CONFIDENTIAL**

(1.4.1.1.3)
Supersonic

EXPERIMENTAL INVESTIGATION OF DISTORTION REMOVAL CHARACTERISTICS OF SEVERAL FREE-WHEELING FANS. Harold H. Valentine and William T. Beale. January 1958. 37p. diagrs., photos. (NACA RM E57I12) **CONFIDENTIAL**

INVESTIGATION AT SUPERSONIC SPEEDS OF THE COMPRESSOR STALL AND INLET BUZZ CHARACTERISTICS OF A J34 - SPIKE-INLET COMBINATION. J. Cary Nettles and Robert C. Campbell. March 1958. 30p. diagrs., photo. (NACA RM E57K19b) **CONFIDENTIAL**

AERODYNAMIC AND INLET-FLOW-FIELD CHARACTERISTICS AT A FREE-STREAM MACH NUMBER OF 3.0 FOR AIRPLANES WITH CIRCULAR FUSELAGE CROSS SECTIONS AND FOR TWO ENGINE LOCATIONS. Murray Dryer and Roger W. Luidens. March 1958. 32p. diagrs., tab. (NACA RM E57K26) **CONFIDENTIAL**

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(1) AERODYNAMICS

FREE-FLIGHT INVESTIGATION TO DETERMINE THE INLET EXTERNAL DRAG OF FOUR INLET MODELS AT MACH NUMBERS FROM 1.50 TO 3.00. Walter L. Kouyoumjian. April 1958. 25p. diags., photos., tabs. (NACA RM L58B04)

CONFIDENTIAL

USE OF SHOCK-TRAP BLEED TO IMPROVE PRESSURE RECOVERY OF FIXED- AND VARIABLE-CAPTURE-AREA INTERNAL-CONTRACTION INLETS: MACH NUMBER 2.0 TO 3.0. Roger W. Luidens and Richard J. Flaherty. August 1958. 18p. diags., photos. (NACA RM E58D24)

CONFIDENTIAL

PERFORMANCE OF AN ALL-INTERNAL CONICAL COMPRESSION INLET WITH ANNULAR THROAT BLEED AT MACH NUMBER 5.0. Leonard E. Stitt and Leonard J. Obery. August 1958. 17p. diags., photos. (NACA RM E58E14)

CONFIDENTIAL

(Title, Confidential)

AN EXPERIMENTAL INVESTIGATION OF TWO INTERNAL-COMPRESSION AIR-INLET DESIGNS WHICH USE FLUID BOUNDARIES AS A MEANS OF SUPERSONIC COMPRESSION. Robert R. Howell and Charles D. Trescot, Jr. August 1958. 28p. diags., tab. (NACA RM L58F06)

CONFIDENTIAL

PERFORMANCE OF AN ISENTROPIC, ALL-INTERNAL-CONTRACTION, AXISYMMETRIC INLET DESIGNED FOR MACH 2.50. David N. Bowditch and Bernhard H. Anderson. September 1958. 26p. diags., photos., tab. (NACA RM E58E16)

CONFIDENTIAL

INVESTIGATION OF INLET CONTROL PARAMETERS FOR AN EXTERNAL-INTERNAL-COMPRESSION INLET FROM MACH 2.1 TO 3.0. Bernhard H. Anderson and David N. Bowditch. September 1958. 15p. diags. (NACA RM E58G08)

CONFIDENTIAL

A PIVOTING-COWL-AND-SPIKE TECHNIQUE FOR EFFICIENT ANGLE-OF-ATTACK OPERATION OF SUPERSONIC INLETS. Nick E. Samanich and Robert W. Cubbison. September 1958. 20p. diags., photos. (NACA RM E58G11a)

CONFIDENTIAL

(1.4.1.2)
NOSE, ANNULAR

INVESTIGATION OF FIXED-GEOMETRY SUPERSONIC INLETS WITH BYPASS DUCTS FOR MATCHING TURBOJET-ENGINE AIR-FLOW REQUIREMENTS OVER A RANGE OF TRANSONIC AND SUPERSONIC SPEEDS. Abraham Leiss and Walter L. Kouyoumjian. February 1958. 40p. diags., photos., tabs. (NACA RM L57K14)

CONFIDENTIAL

HIGH MACH NUMBER, LOW-COWL-DRAG, EXTERNAL-COMPRESSION INLET WITH SUBSONIC DUMP DIFFUSER. James F. Connors and Richard J. Flaherty. May 1958. 19p. diags., photos. (NACA RM E58A09)

CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF EXTREME INTERNAL FLOW TURNING AT THE COWL LIP OF AN AXISYMMETRIC INLET AT A MACH NUMBER OF 2.95. Kenneth C. Weston and Kenneth L. Kowalski. May 1958. 20p. diags., photos., tab. (NACA RM E58A27a)

CONFIDENTIAL

A FLIGHT-TEST STUDY OF TOTAL-PRESSURE DISTORTION IN A THICK-LIPPED NOSE INLET. Rodney C. Wingrove. June 1958. 30p. diags., photos. (NACA RM A58B07)

CONFIDENTIAL

EFFECT OF SCREENS IN REDUCING DISTORTION AND DIFFUSION LENGTH FOR A "DUMP" DIFFUSER AT A MACH NUMBER OF 3.85. Joseph F. Wasserbauer. July 1958. 18p. diags., photos. (NACA RM E58C19)

CONFIDENTIAL

(Title, Confidential)

PERFORMANCE OF AN ISENTROPIC, ALL-INTERNAL-CONTRACTION, AXISYMMETRIC INLET DESIGNED FOR MACH 2.50. David N. Bowditch and Bernhard H. Anderson. September 1958. 26p. diags., photos., tab. (NACA RM E58E16)

CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF EFFECT OF SPIKE-TIP AND COWL-LIP BLUNTING ON THE INTERNAL PERFORMANCE OF A TWO-CONE CYLINDRICAL-COWL INLET AT MACH NUMBER 4.95. Kenneth C. Weston. September 1958. 15p. diags. (NACA RM E58G02)

CONFIDENTIAL

(1.4.1.3)
WING LEADING EDGE

PERFORMANCE OF A TWO-DIMENSIONAL CASCADE INLET AT A FREE-STREAM MACH NUMBER OF 3.05 AND AT ANGLES OF ATTACK OF -3° , 0° , 3° , AND 6° . Richard R. Woollett and Harold M. Ferguson. March 1958. 28p. diags., photos. (NACA RM E57L06)

CONFIDENTIAL

(1.4.1.4)
SIDE

INVESTIGATION OF CONTROL SIGNALS FOR VARIABLE RAMPS OF TWIN-DUCT SIDE INLETS. Milton A. Beheim and Richard A. Yeager. January 1958. 43p. diags., photo. (NACA RM E57G22)

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(1) AERODYNAMICS

PERFORMANCE OF AN INLET HAVING A VARIABLE-ANGLE TWO-DIMENSIONAL COMPRESSION SURFACE AND A FIXED-GEOMETRY SUBSONIC DIFFUSER FOR APPLICATION TO REDUCED ENGINE ROTATIVE SPEEDS: MACH NUMBERS 0.66, 1.5, 1.7, AND 2.0. John L. Allen. January 1958. 29p. diags., photos. (NACA RM E57J02) **CONFIDENTIAL**

AN INVESTIGATION OF THE PERFORMANCE OF A SEMIELLIPTICAL SCOOP INLET AT MACH NUMBERS OF 1.60, 1.76, AND 2.02. Clyde Hayes and Ernest A. Mackley. January 1958. 65p. diags., photos. (NACA RM L57G15) **CONFIDENTIAL**

INVESTIGATION OF AN UNDERSLUNG HALF-CONE INLET WITH COMPRESSION SURFACE MOUNTED OUTBOARD FROM FUSELAGE AT MACH NUMBERS OF 1.5, 1.8, AND 2.0. Richard A. Yeager and Laurence W. Gertsma. May 1958. 16p. diags., photos. (NACA RM E58A27b) **CONFIDENTIAL**

INDUCTION SYSTEM CHARACTERISTICS AND ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-TYPE AIRPLANES. Terry J. Larson, George M. Thomas, and Donald R. Bellman. May 1958. 36p. diags., photos., tab. (NACA RM H58C14) **CONFIDENTIAL**

(1.4.1.4.1)
Scoops

EFFECT OF INLET ASPECT RATIO ON THE STARTING AND PRESSURE RECOVERY CHARACTERISTICS OF A RECTANGULAR SWEEP SCOOP INLET TESTED AT A MACH NUMBER OF 3.1. Ernest A. Mackley. January 1958. 56p. diags., photos., tab. (NACA RM L57J07) **CONFIDENTIAL**

(1.4.2)
DUCTS

EXPERIMENTAL INVESTIGATION OF DISTORTION REMOVAL CHARACTERISTICS OF SEVERAL FREE-WHEELING FANS. Harold H. Valentine and William T. Beale. January 1958. 37p. diags., photos. (NACA RM E57I12) **CONFIDENTIAL**

A FLIGHT-TEST STUDY OF TOTAL-PRESSURE DISTORTION IN A THICK-LIPPED NOSE INLET. Rodney C. Wingrove. June 1958. 30p. diags., photos. (NACA RM A58B07) **CONFIDENTIAL**

(1.4.2.1)
DIFFUSERS

PERFORMANCE OF A TWO-DIMENSIONAL CASCADE INLET AT A FREE-STREAM MACH NUMBER OF 3.05 AND AT ANGLES OF ATTACK OF -3° , 0° , 3° , AND 6° . Richard R. Woollett and Harold M. Ferguson. March 1958. 28p. diags., photos. (NACA RM E57L06) **CONFIDENTIAL**

SURVEY OF SUPERSONIC INLETS FOR HIGH MACH NUMBER APPLICATIONS. James F. Connors and John L. Allen. April 1958. 20p. diags., photos., tabs. (NACA RM E58A20) **CONFIDENTIAL**

HIGH MACH NUMBER, LOW-COWL-DRAG, EXTERNAL-COMPRESSION INLET WITH SUBSONIC DUMP DIFFUSER. James F. Connors and Richard J. Flaherty. May 1958. 19p. diags., photos. (NACA RM E58A09) **CONFIDENTIAL**

(1.4.2.1.1)
Subsonic

PERFORMANCE OF AN INLET HAVING A VARIABLE-ANGLE TWO-DIMENSIONAL COMPRESSION SURFACE AND A FIXED-GEOMETRY SUBSONIC DIFFUSER FOR APPLICATION TO REDUCED ENGINE ROTATIVE SPEEDS: MACH NUMBERS 0.66, 1.5, 1.7, AND 2.0. John L. Allen. January 1958. 29p. diags., photos. (NACA RM E57J02) **CONFIDENTIAL**

EFFECTS OF SHOCK-BOUNDARY-LAYER INTERACTION ON THE PERFORMANCE OF A LONG AND A SHORT SUBSONIC ANNULAR DIFFUSER. Charles C. Wood and John R. Henry. April 1958. 38p. diags. (NACA RM L58A31) **CONFIDENTIAL**

INDUCTION SYSTEM CHARACTERISTICS AND ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-TYPE AIRPLANES. Terry J. Larson, George M. Thomas, and Donald R. Bellman. May 1958. 36p. diags., photos., tab. (NACA RM H58C14) **CONFIDENTIAL**

VISCOUS FLOWS IN INLETS. Richard Scherrer, John H. Lundell, and Lewis A. Anderson. June 1958. 16p. diags., photos. (NACA RM A58D17a) **CONFIDENTIAL**

INVESTIGATION OF THE PERFORMANCE AND INTERNAL FLOW OF A VARIABLE-AREA, VARIABLE-INTERNAL-CONTRACTION INLET AT MACH NUMBERS OF 2.00, 2.50, AND 2.92. Richard Scherrer and Warren E. Anderson. July 1958. 36p. diags., photo. (NACA RM A58C24) **CONFIDENTIAL**

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(1) AERODYNAMICS

EFFECT OF SCREENS IN REDUCING DISTORTION AND DIFFUSION LENGTH FOR A "DUMP" DIFFUSER AT A MACH NUMBER OF 3.85. Joseph F. Wasserbauer. July 1958. 18p. diags., photos. (NACA RM E58C19) **CONFIDENTIAL**
(Title, Confidential)

PERFORMANCE OF AN ALL-INTERNAL CONICAL COMPRESSION INLET WITH ANNULAR THROAT BLEED AT MACH NUMBER 5.0. Leonard E. Stitt and Leonard J. Obery. August 1958. 17p. diags., photos. (NACA RM E58E14) **CONFIDENTIAL**
(Title, Confidential)

(1.4.2.1.2)

Supersonic

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PERFORMANCE AT MACH NUMBERS 3.07, 1.89, AND 0 OF INLETS DESIGNED FOR INLET-ENGINE MATCHING UP TO MACH 3. L. W. Gertsma and M. A. Beheim. May 1958. 49p. diags., photos. (NACA RM E58B13) **CONFIDENTIAL**

VISCOUS FLOWS IN INLETS. Richard Scherrer, John H. Lundell, and Lewis A. Anderson. June 1958. 16p. diags., photos. (NACA RM A58D17a) **CONFIDENTIAL**

EXPERIMENTAL SHOCK CONFIGURATIONS AND SHOCK LOSSES IN A TRANSONIC-COMPRESSOR ROTOR AT DESIGN SPEED. Genevieve R. Miller and Melvin J. Hartmann. June 1958. 55p. diags., photos. (NACA RM E58A14b) **CONFIDENTIAL**

ANALYSIS OF TRANSONIC ROTOR-BLADE PASSAGE LOSS WITH HOT-WIRE ANEMOMETERS. George W. Lewis, Edward R. Tysl, and Theodore E. Fessler. June 1958. 28p. diags., photos. (NACA RM E58C04) **CONFIDENTIAL**

INVESTIGATION OF THE PERFORMANCE AND INTERNAL FLOW OF A VARIABLE-AREA, VARIABLE-INTERNAL-CONTRACTION INLET AT MACH NUMBERS OF 2.00, 2.50, AND 2.92. Richard Scherrer and Warren E. Anderson. July 1958. 38p. diags., photo. (NACA RM A58C24) **CONFIDENTIAL**

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(Title, Confidential)

USE OF SHOCK-TRAP BLEED TO IMPROVE PRESSURE RECOVERY OF FIXED- AND VARIABLE-CAPTURE-AREA INTERNAL-CONTRACTION INLETS; MACH NUMBER 2.0 TO 3.0. Roger W. Luidens and Richard J. Flaherty. August 1958. 18p. diags., photos. (NACA RM E58D24) **CONFIDENTIAL**

PERFORMANCE OF AN ALL-INTERNAL CONICAL COMPRESSION INLET WITH ANNULAR THROAT BLEED AT MACH NUMBER 5.0. Leonard E. Stitt and Leonard J. Obery. August 1958. 17p. diags., photos. (NACA RM E58E14) **CONFIDENTIAL**
(Title, Confidential)

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EFFECT OF SPIKE-TIP AND COWL-LIP BLUNTING ON INLET PERFORMANCE OF A MACH 3.0 EXTERNAL-COMPRESSION INLET. R. W. Cubbison and N. E. Samanich. September 1958. 19p. diags., photos. (NACA RM E58G02a) **CONFIDENTIAL**

INVESTIGATION OF INLET CONTROL PARAMETERS FOR AN EXTERNAL-INTERNAL-COMPRESSION INLET FROM MACH 2.1 TO 3.0. Bernhard H. Anderson and David N. Bowditch. September 1958. 15p. diags. (NACA RM E58G08) **CONFIDENTIAL**

A PIVOTING-COWL-AND-SPIKE TECHNIQUE FOR EFFICIENT ANGLE-OF-ATTACK OPERATION OF SUPERSONIC INLETS. Nick E. Samanich and Robert W. Cubbison. September 1958. 20p. diags., photos. (NACA RM E58G11a) **CONFIDENTIAL**

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(1) AERODYNAMICS

(1.4.2.2) NOZZLES

EXPERIMENTAL RESULTS OF AN INVESTIGATION OF TWO METHODS OF INFLIGHT THRUST MEASUREMENT APPLICABLE TO AFTERBURNING TURBOJET ENGINES WITH EJECTORS. Harry E. Bloomer. May 1958. 36p. diags., photos. (NACA RM E57H28) **CONFIDENTIAL**

PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diags., photos., tabs. (NACA RM L58D09) **CONFIDENTIAL**

(1.4.3) EXITS

EFFECT OF TARGET-TYPE THRUST REVERSER ON TRANSONIC AERODYNAMIC CHARACTERISTICS OF A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart. January 1958. 42p. diags., photos., tab. (NACA RM L57J16) **CONFIDENTIAL**

TABULATED PRESSURE DATA FOR A 60° DELTA-WING-BODY-TAIL MODEL WITH A HOT JET EXHAUSTING FROM A PYLON-MOUNTED NACELLE. Edwin E. Lee, Jr., and John M. Swihart. February 1958. 199p. diags., photos., tabs. (NACA RM L57J22) **CONFIDENTIAL**

FREE-FLIGHT TRANSONIC MODEL INVESTIGATION OF JET EFFECTS ON A FIGHTER-TYPE CONFIGURATION EMPLOYING A TAIL BOOM AND THREE HORIZONTAL-TAIL POSITIONS. Bruce G. Jackson. February 1958. 83p. diags., photos., tabs. (NACA RM L57J31) **CONFIDENTIAL**

EFFECT OF A HOT-JET EXHAUST ON PRESSURE DISTRIBUTIONS AND EXTERNAL DRAG OF SEVERAL AFTERBODIES ON A SINGLE-ENGINE AIRPLANE MODEL AT TRANSONIC SPEEDS. Harry T. Norton, Jr., and John M. Swihart. March 1958. 58p. diags., photos., tab. (NACA RM L57J04) **CONFIDENTIAL**

INVESTIGATION AT TRANSONIC SPEEDS OF A FIXED DIVERGENT EJECTOR INSTALLED IN A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart and Charles E. Mercer. March 1958. 32p. diags., photos. (NACA RM L57L10a) **CONFIDENTIAL**

JET EFFECTS ON THE BASE DRAG OF A CYLINDRICAL AFTERBODY WITH EXTENDED NOZZLES. William J. Nelson and William R. Scott. April 1958. 41p. diags., photos. (NACA RM L58A27) **CONFIDENTIAL**

EXPERIMENTAL RESULTS OF AN INVESTIGATION OF TWO METHODS OF INFLIGHT THRUST MEASUREMENT APPLICABLE TO AFTERBURNING TURBOJET ENGINES WITH EJECTORS. Harry E. Bloomer. May 1958. 36p. diags., photos. (NACA RM E57H28) **CONFIDENTIAL**

EFFECTS OF BOATTAIL AREA CONTOURING AND SIMULATED TURBOJET EXHAUST ON THE LOADING AND FUSELAGE-TAIL COMPONENT DRAG OF A TWIN-ENGINE FIGHTER-TYPE AIRPLANE MODEL. Willard E. Foss, Jr., Jack F. Runckel, and Edwin E. Lee, Jr. July 1958. 62p. diags., photos., tabs. (NACA RM L58C04) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF A FULL-SCALE AIRCRAFT EJECTOR WITH VARIOUS SPACING RATIOS AND CORRELATION WITH SMALL-SCALE TESTS. C. Dewey Havill and Rodney C. Wingrove. August 1958. 48p. diags., photos., tab. (NACA RM A58D21) **CONFIDENTIAL**

OFF-DESIGN PERFORMANCE OF DIVERGENT EJECTORS. Milton A. Behelm. September 1958. 60p. diags., tab. (NACA RM E58G10a) **CONFIDENTIAL**

EXPERIMENTAL STUDY OF BALLISTIC-MISSILE BASE HEATING WITH OPERATING ROCKET. J. Cary Nettles. September 1958. 10p. diags., photo. (NACA RM E58G17) **CONFIDENTIAL**

EFFECT OF CONVERGENT EJECTOR NOZZLES ON THE BOATTAIL DRAG OF A 16° CONICAL AFTERBODY AT MACH NUMBERS OF 0.6 TO 1.26. James M. Cabbage, Jr. September 1958. 33p. diags., photos. (NACA RM L58G25) **CONFIDENTIAL**

(1.4.4) JET PUMPS AND THRUST AUGMENTORS

FLIGHT INVESTIGATION OF A FULL-SCALE AIRCRAFT EJECTOR WITH VARIOUS SPACING RATIOS AND CORRELATION WITH SMALL-SCALE TESTS. C. Dewey Havill and Rodney C. Wingrove. August 1958. 48p. diags., photos., tab. (NACA RM A58D21) **CONFIDENTIAL**

(1.4.5) CASCADES

TRANSONIC INVESTIGATION OF AN AXIAL-FLOW COMPRESSOR ROTOR WITH A CONTRACTED EXIT ANNULUS. Robert S. Babington. February 1958. 41p. diags., photo. (NACA RM L57K27) **CONFIDENTIAL**

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(1) AERODYNAMICS

PERFORMANCE OF A TWO-DIMENSIONAL CASCADE INLET AT A FREE-STREAM MACH NUMBER OF 3.05 AND AT ANGLES OF ATTACK OF -3° , 0° , 3° , AND 6° . Richard R. Woollett and Harold M. Ferguson. March 1958. 28p. diagrs., photos. (NACA RM E57L06) CONFIDENTIAL

(1.4.5.1)

THEORY

EXPERIMENTAL SHOCK CONFIGURATIONS AND SHOCK LOSSES IN A TRANSONIC-COMPRESSOR ROTOR AT DESIGN SPEED. Genevieve R. Miller and Melvin J. Hartmann. June 1958. 55p. diagrs., photos. (NACA RM E58A14b) CONFIDENTIAL

(1.4.5.2)

EXPERIMENT

TWO-DIMENSIONAL CASCADE INVESTIGATION AT MACH NUMBERS UP TO 1.0 OF NACA 65-SERIES BLADE SECTIONS AT CONDITIONS TYPICAL OF COMPRESSOR TIPS. James C. Dunavant and James C. Emery. March 1958. 185p. diagrs., photos., tab. (NACA RM L58A02) CONFIDENTIAL

EXPERIMENTAL SHOCK CONFIGURATIONS AND SHOCK LOSSES IN A TRANSONIC-COMPRESSOR ROTOR AT DESIGN SPEED. Genevieve R. Miller and Melvin J. Hartmann. June 1958. 55p. diagrs., photos. (NACA RM E58A14b) CONFIDENTIAL

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(1.4.6)

FANS

EXPERIMENTAL INVESTIGATION OF DISTORTION REMOVAL CHARACTERISTICS OF SEVERAL FREE-WHEELING FANS. Harold H. Valentine and William T. Beale. January 1958. 37p. diagrs., photos. (NACA RM E57I12) CONFIDENTIAL

(1.4.7)

BOUNDARY LAYER

PERFORMANCE OF AN INLET HAVING A VARIABLE-ANGLE TWO-DIMENSIONAL COMPRESSION SURFACE AND A FIXED-GEOMETRY SUBSONIC DIFFUSER FOR APPLICATION TO REDUCED ENGINE ROTATIVE SPEEDS: MACH NUMBERS 0.66, 1.5, 1.7, AND 2.0. John L. Allen. January 1958. 29p. diagrs., photos. (NACA RM E57J02) CONFIDENTIAL

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(1.4.7.1)

CHARACTERISTICS

INVESTIGATION OF A 0.6 HUB-TIP RADIUS-RATIO TRANSONIC TURBINE DESIGNED FOR SECONDARY-FLOW STUDY. IV - ROTOR LOSS PATTERNS AS DETERMINED BY HOT-WIRE ANEMOMETERS WITH ROTOR OPERATING IN A CIRCUMFERENTIALLY UNIFORM INLET FLOW FIELD. Milton G. Kofskey and Hubert W. Allen. May 1958. 20p. diagrs., photos. (NACA RM E58B27) CONFIDENTIAL

ANALYSIS OF TRANSONIC ROTOR-BLADE PASSAGE LOSS WITH HOT-WIRE ANEMOMETERS. George W. Lewis, Edward R. Tysl, and Theodore E. Fessler. June 1958. 28p. diagrs., photos. (NACA RM E58C04) CONFIDENTIAL

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(1) AERODYNAMICS

(1.4.7.2)
CONTROL

AN INVESTIGATION OF THE PERFORMANCE OF A SEMIELLIPTICAL SCOOP INLET AT MACH NUMBERS OF 1.60, 1.76, AND 2.02. Clyde Hayes and Ernest A. Mackley. January 1958. 65p. diagrs., photos. (NACA RM L57G15) CONFIDENTIAL

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INVESTIGATION OF A 0.6 HUB-TIP RADIUS-RATIO TRANSONIC TURBINE DESIGNED FOR SECONDARY-FLOW STUDY. IV - ROTOR LOSS PATTERNS AS DETERMINED BY HOT-WIRE ANEMOMETERS WITH ROTOR OPERATING IN A CIRCUMFERENTIALLY UNIFORM INLET FLOW FIELD. Milton G. Kofskey and Hubert W. Allen. May 1958. 20p. diagrs., photos. (NACA RM E58B27) CONFIDENTIAL

USE OF SHOCK-TRAP BLEED TO IMPROVE PRESSURE RECOVERY OF FIXED- AND VARIABLE-CAPTURE-AREA INTERNAL-CONTRACTION INLETS; MACH NUMBER 2.0 TO 3.0. Roger W. Luidens and Richard J. Flaherty. August 1958. 18p. diagrs., photos. (NACA RM E58D24) CONFIDENTIAL

PERFORMANCE OF AN ALL-INTERNAL CONICAL COMPRESSION INLET WITH ANNULAR THROAT BLEED AT MACH NUMBER 5.0. Leonard E. Stitt and Leonard J. Obery. August 1958. 17p. diagrs., photos. (NACA RM E58E14) CONFIDENTIAL
(Title, Confidential)

AN EXPERIMENTAL INVESTIGATION OF TWO INTERNAL-COMPRESSION AIR-INLET DESIGNS WHICH USE FLUID BOUNDARIES AS A MEANS OF SUPERSONIC COMPRESSION. Robert R. Howell and Charles D. Trescot, Jr. August 1958. 28p. diagrs., tab. (NACA RM L58F06) CONFIDENTIAL

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~(1) AERODYNAMICS

(1.5)
Propellers**(1.5.2)**
DESIGN VARIABLES**(1.5.2.5)**
MACH NUMBER EFFECTS

EFFECT OF COMPRESSIBILITY ON THE HOVERING PERFORMANCE OF TWO 10-FOOT-DIAMETER HELICOPTER ROTORS TESTED IN THE LANGLEY FULL-SCALE TUNNEL. Joseph W. Jewel, Jr., and Robert D. Harrington. April 1958. 43p. diagrs., photos., tab. (NACA RM L58B19) **CONFIDENTIAL**

(1.5.4)
SLIPSTREAM

SECTION THRUST COEFFICIENTS FOR A FULL-SCALE, THREE-BLADE, SUPERSONIC-TYPE PROPELLER OPERATING AT LOW AND NEGATIVE BLADE ANGLES. Leland B. Salters, Jr., and Martha C. Lewis. March 1958. 23p. diagrs., photo., tabs. (NACA RM L58A03) **CONFIDENTIAL**

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(1) AERODYNAMICS

(1.6)
Rotating Wings

(1.6.2)
EXPERIMENTAL STUDIES

(1.6.2.1)
POWER-DRIVEN

**EFFECT OF COMPRESSIBILITY ON THE HOVERING
PERFORMANCE OF TWO 10-FOOT-DIAMETER
HELICOPTER ROTORS TESTED IN THE LANGLEY
FULL-SCALE TUNNEL. Joseph W. Jewel, Jr., and
Robert D. Harrington. April 1958. 43p. diagrs.,
photos., tab. (NACA RM L58B19) CONFIDENTIAL**

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(1) AERODYNAMICS

(1.7)
Aircraft(1.7.1)
AIRPLANES

(1.7.1.1)

COMPONENTS IN COMBINATION

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD. John W. Boyd and Victor L. Peterson. January 1958. 32p. diagrs., photo., tabs. (NACA RM A57J15)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - TRIANGULAR WING AND CANARD ON AN EXTENDED BODY. John W. Boyd and Victor L. Peterson. February 1958. 62p. diagrs., tabs. (NACA RM A57K14)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND UNSWEPT CANARD. Victor L. Peterson and Gene P. Menees. February 1958. 31p. diagrs., tabs. (NACA RM A57K26)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF AN UNSWEPT WING AND CANARD. Victor L. Peterson and John W. Boyd. February 1958. 29p. diagrs., tabs. (NACA RM A57K27)

CONFIDENTIAL

FREE-FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.5 OF THE EFFECT OF A FUSELAGE INDENTATION ON THE ZERO-LIFT DRAG OF A 52.5° SWEEPBACK-WING-BODY CONFIGURATION WITH SYMMETRICALLY MOUNTED STORES ON THE FUSELAGE. Sherwood Hoffman. February 1958. 27p. diagrs., photos., tabs. (NACA RM L57L04)

CONFIDENTIAL

AN INVESTIGATION OF SUPERSONIC STORE INTERFERENCE IN THE VICINITY OF A 22° SWEEP-WING-FUSELAGE CONFIGURATION AT MACH NUMBERS OF 1.61 AND 2.01. Douglas J. Geier. February 1958. 105p. diagrs., tab. (NACA RM L57L18)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LATERAL-DIRECTIONAL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD. Victor L. Peterson and Gene P. Menees. March 1958. 76p. diagrs., photo., tabs. (NACA RM A57L18)

CONFIDENTIAL

AERODYNAMIC AND INLET-FLOW-FIELD CHARACTERISTICS AT A FREE-STREAM MACH NUMBER OF 3.0 FOR AIRPLANES WITH CIRCULAR FUSELAGE CROSS SECTIONS AND FOR TWO ENGINE LOCATIONS. Murray Dryer and Roger W. Luidens. March 1958. 32p. diagrs., tab. (NACA RM E57K26)

CONFIDENTIAL

AN INVESTIGATION AT MACH NUMBERS 1.94 AND 2.41 OF JET EFFECTS UPON THE LONGITUDINAL AND DIRECTIONAL STABILITY OF A GENERAL AIRCRAFT CONFIGURATION EMPLOYING WING-TIP-MOUNTED NACELLES. Frank L. Clark and Clyde L. W. Edwards. March 1958. 69p. diagrs., photos. (NACA RM L57L18a)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS OVER A MACH NUMBER RANGE OF 1.40 TO 2.78 OF A ROCKET-PROPELLED AIRPLANE CONFIGURATION HAVING A LOW 52.5° DELTA WING AND AN UNSWEPT HORIZONTAL TAIL. Alan B. Kehlet. March 1958. 26p. diagrs., photos., tab. (NACA RM L58A23)

CONFIDENTIAL

STATIC STABILITY AND CONTROL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD CONFIGURATION AT MACH NUMBERS FROM 2.58 TO 3.53. C. Ernest Hedstrom, James R. Blackaby, and Victor L. Peterson. May 1958. 62p. diagrs., photos., tabs. (NACA RM A58C05)

CONFIDENTIAL

THE PROSPECTS FOR LAMINAR FLOW ON HYPERSONIC AIRPLANES. Alvin Self. June 1958. 17p. diagrs., photo. (NACA RM A58D25)

CONFIDENTIAL

EFFECTS OF CANARDS ON AIRPLANE PERFORMANCE AND STABILITY. Charles F. Hall and John W. Boyd. July 1958. 24p. diagrs. (NACA RM A58D24)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF HYPERSONIC GLIDERS. Robert W. Rainey. July 1958. 16p. diagrs., tab. (NACA RM L58E12a)

CONFIDENTIAL

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(1) AERODYNAMICS

AIRPLANE CONFIGURATIONS FOR CRUISE AT A MACH NUMBER OF 3. Donald D. Baals, Thomas A. Toll, and Owen G. Morris. August 1958. 22p. diags. (NACA RM L58E14a) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS 2.36 AND 2.87 OF AN AIRPLANE CONFIGURATION HAVING A CAMBERED ARROW WING WITH A 75° SWEEPED LEADING EDGE. Joseph M. Hallissy, Jr., and Dennis F. Hasson. August 1958. 63p. diags., photos., tabs. (NACA RM L58E21) **CONFIDENTIAL**

AERODYNAMIC PERFORMANCE AND STATIC STABILITY AND CONTROL OF FLAT-TOP HYPERSONIC GLIDERS AT MACH NUMBERS FROM 0.6 TO 18. Clarence A. Syvertson, Hermilo R. Gloria, and Michael F. Sarabia. September 1958. 56p. diags., tabs. (NACA RM A58G17) **CONFIDENTIAL**

(1.7.1.1.1)
Wing-Fuselage

EFFECTS OF A LEADING-EDGE SLAT AND A TRAILING-EDGE SPLIT FLAP ON THE AERODYNAMIC CHARACTERISTICS OF A WING-FUSELAGE COMBINATION HAVING A NEARLY TRIANGULAR WING OF ASPECT RATIO 2.9 AT MACH NUMBERS FROM 0.60 TO 0.92. Fred A. Demele. January 1958. 66p. diags., photos., tabs. (NACA RM A57H19) **CONFIDENTIAL**

TABULATED PRESSURE DATA FOR A 60° DELTA-WING-BODY-TAIL MODEL WITH A HOT JET EXHAUSTING FROM A PYLON-MOUNTED NACELLE. Edwin E. Lee, Jr., and John M. Swihart. February 1958. 199p. diags., photos., tabs. (NACA RM L57J22) **CONFIDENTIAL**

EFFECT AT HIGH SUBSONIC SPEEDS OF FUSELAGE FOREBODY STRAKES ON THE STATIC STABILITY AND VERTICAL-TAIL-LOAD CHARACTERISTICS OF A COMPLETE MODEL HAVING A DELTA WING. Edward C. Polhamus and Kenneth P. Spreemann. February 1958. 32p. diags., photo. (NACA RM L57K15a) **CONFIDENTIAL**

EXPERIMENTAL LIFT-DRAG RATIOS FOR TWO FAMILIES OF WING-BODY COMBINATIONS AT SUPERSONIC SPEEDS. Leland H. Jorgensen. March 1958. 22p. diags., photos., tab. (NACA RM A58A08) **CONFIDENTIAL**

AN EXPLORATORY INVESTIGATION AT MACH NUMBERS OF 2.50 AND 2.87 OF A CANARD BOMBER-TYPE CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Thomas C. Kelly, Melvin M. Carmel, and Donald T. Gregory. April 1958. 45p. diags., photos., tab. (NACA RM L58B28) **CONFIDENTIAL**

THE EFFECT OF MOMENT-OF-AREA-RULE MODIFICATIONS ON THE ZERO-LIFT DRAG OF THREE WING-BODY COMBINATIONS. Robert R. Dickey. May 1958. 29p. diags., tabs. (NACA RM A58A31) **CONFIDENTIAL**

TRANSONIC INVESTIGATION OF YAWED WINGS OF ASPECT RATIOS 3 AND 6 WITH A SEARS-HAACK BODY AND WITH SYMMETRICAL AND ASYMMETRICAL BODIES INDENTED FOR A MACH NUMBER OF 1.20. George H. Holdaway and Elaine W. Hatfield. June 1958. 111p. diags., photos., tabs. (NACA RM A58C03) **CONFIDENTIAL**

EXPERIMENTAL INVESTIGATION OF THE DRAG DUE TO WEDGES ALONG THE TRAILING EDGE OF A SWEEPED WING. Bruno J. Gambucci and John A. Wyss. June 1958. 15p. diags., photos. (NACA RM A58D15) **CONFIDENTIAL**

EXPERIMENTAL INVESTIGATION OF EFFECTS OF WING PLAN FORM AND DIHEDRAL ANGLE ON SIDESLIP DERIVATIVES OF SWEEPED-WING-BODY COMBINATIONS AT SUPERSONIC SPEEDS. William B. Boatright. July 1958. 66p. diags., photo., tab. (NACA RM L58E08) **CONFIDENTIAL**

A WIND-TUNNEL INVESTIGATION OF THE WING LOADS DUE TO DEFLECTED INBOARD ALLERONS ON A 45° SWEEPED WING AT TRANSONIC SPEEDS. Atwood R. Heath, Jr., and Ann W. Igoe. July 1958. 101p. diags., photos., tabs. (NACA RM L58E12) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF HYPERSONIC GLIDERS. Robert W. Rainey. July 1958. 16p. diags., tab. (NACA RM L58E12a) **CONFIDENTIAL**

FORCES AND PITCHING MOMENTS ON AN ASPECT-RATIO-3.1 WING-BODY COMBINATION AT MACH NUMBERS FROM 2.5 TO 3.5 AND SUBLIMATION STUDIES OF THE EFFECT OF SINGLE-ELEMENT ROUGHNESS ON THE BOUNDARY-LAYER FLOW. Edward J. Hopkins, Stephen J. Keating, Jr., and Richard R. Muhl. August 1958. 21p. diags., photos. (NACA RM A58E21a) **CONFIDENTIAL**

APPROXIMATE SOLUTIONS FOR THE FLOW ABOUT FLAT-TOP WING-BODY CONFIGURATIONS AT HIGH SUPERSONIC AIRSPEEDS. Raymond C. Savin. September 1958. 69p. diags., tab. (NACA RM A58F02) **CONFIDENTIAL**

THE STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES AT SUBSONIC SPEEDS OF A MODEL OF THE X-15 RESEARCH AIRPLANE. Armando E. Lopez and Bruce E. Tinling. September 1958. 49p. diags., photos., tab. (NACA RM A58F09) **CONFIDENTIAL**

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(1) AERODYNAMICS

STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES OF AN AIRPLANE MODEL WITH AN UNSWEPT WING AND A HIGH HORIZONTAL TAIL AT MACH NUMBERS OF 2.5, 3.0, AND 3.5. Bedford A. Lampkin and Phillips J. Tunnell. September 1958. 36p. diagrs., photos., tab. (NACA RM A58F17) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DATA OBTAINED AT TRANSONIC SPEEDS ON A THIN LOW-ASPECT-RATIO CAMBERED DELTA WING-BODY COMBINATION. John P. Mugler, Jr. September 1958. 36p. diagrs., photos. (NACA RM L58F24) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS FROM 2.5 TO 3.5 OF A CANARD BOMBER CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Melvin M. Carmel, Thomas C. Kelly, and Donald T. Gregory. September 1958. 53p. diagrs., photos., tab. (NACA RM L58G16) **CONFIDENTIAL**
(Title, Confidential)

(1.7.1.1.2)
Wing-Nacelle

EXPERIMENTAL AND THEORETICAL DETERMINATION OF FORCES AND MOMENTS ON A STORE AND ON A STORE-PYLON COMBINATION MOUNTED ON A 45° SWEEP-WING-FUSELAGE CONFIGURATION AT A MACH NUMBER OF 1.61. Odell A. Morris, Harry W. Carlson, and Douglas J. Geler. January 1958. 123p. diagrs., photos. (NACA RM L57K18) **CONFIDENTIAL**

FREE-FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.5 OF THE EFFECT OF A FUSELAGE INDENTATION ON THE ZERO-LIFT DRAG OF A 52.5° SWEEPBACK-WING-BODY CONFIGURATION WITH SYMMETRICALLY MOUNTED STORES ON THE FUSELAGE. Sherwood Hoffman. February 1958. 27p. diagrs., photos., tabs. (NACA RM L57L04) **CONFIDENTIAL**

AN INVESTIGATION OF SUPERSONIC STORE INTERFERENCE IN THE VICINITY OF A 22° SWEEP-WING-FUSELAGE CONFIGURATION AT MACH NUMBERS OF 1.61 AND 2.01. Douglas J. Geler. February 1958. 105p. diagrs., tab. (NACA RM L57L18) **CONFIDENTIAL**

EFFECTS OF EXTERNAL STORE-PYLON CONFIGURATION AND POSITION ON THE AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP WING-FUSELAGE COMBINATION AT A MACH NUMBER OF 1.61. Odell A. Morris. May 1958. 52p. diagrs. (NACA RM L58C13) **CONFIDENTIAL**

(1.7.1.1.3)
Tail-Wing and Fuselage

EFFECT OF TARGET-TYPE THRUST REVERSER ON TRANSONIC AERODYNAMIC CHARACTERISTICS OF A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart. January 1958. 42p. diagrs., photos., tab. (NACA RM L57J16) **CONFIDENTIAL**

LONGITUDINAL STABILITY INVESTIGATION OF A VERTICAL-TAKE-OFF-AND-LANDING AIRPLANE CONFIGURATION WITH SIMULATED JET INTAKE AND EXHAUST AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. January 1958. 80p. diagrs., photos., tab. (NACA RM L57K05) **CONFIDENTIAL**

FREE-FLIGHT TRANSONIC MODEL INVESTIGATION OF JET EFFECTS ON A FIGHTER-TYPE CONFIGURATION EMPLOYING A TAIL BOOM AND THREE HORIZONTAL-TAIL POSITIONS. Bruce G. Jackson. February 1958. 83p. diagrs., photos., tabs. (NACA RM L57J31) **CONFIDENTIAL**

TRANSONIC WIND-TUNNEL INVESTIGATION OF THE EFFECT OF A HORIZONTAL TAIL ON LONGITUDINAL STABILITY OF TWO 60° SWEEPBACK-WING-BODY CONFIGURATIONS WITH ASPECT RATIOS OF 2.67 AND 4.00. Joseph D. Brooks. February 1958. 21p. diagrs., photo., tabs. (NACA RM L57L11) **CONFIDENTIAL**

EXPERIMENTAL DETERMINATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION ON THE ROLL-STABILITY DERIVATIVES FOR A 60° DELTA-WING AIRPLANE MODEL. Lewis R. Fisher. February 1958. 49p. diagrs., photos., tabs. (NACA RM L57L17) **CONFIDENTIAL**

THE EFFECTS OF BODY VORTICES AND THE WING SHOCK-EXPANSION FIELD ON THE PITCH-UP CHARACTERISTICS OF SUPERSONIC AIRPLANES. Jack N. Nielsen. March 1958. 53p. diagrs. (NACA RM A57L23) **CONFIDENTIAL**

EFFECT OF A HOT-JET EXHAUST ON PRESSURE DISTRIBUTIONS AND EXTERNAL DRAG OF SEVERAL AFTERBODIES ON A SINGLE-ENGINE AIRPLANE MODEL AT TRANSONIC SPEEDS. Harry T. Norton, Jr., and John M. Swihart. March 1958. 58p. diagrs., photos., tab. (NACA RM L57J04) **CONFIDENTIAL**

INVESTIGATION OF THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A TRAPEZOIDAL-WING AIRPLANE MODEL WITH VARIOUS VERTICAL POSITIONS OF WING AND HORIZONTAL TAIL AT MACH NUMBERS OF 1.41 AND 2.01. Gerald V. Foster. March 1958. 43p. diagrs., tabs. (NACA RM L58A07) **CONFIDENTIAL**

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(1) AERODYNAMICS

PRELIMINARY STUDY OF AIRPLANE CONFIGURATIONS HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS. William C. Sleeman, Jr. March 1958. 36p. diagrs. (NACA RM L58B06) CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS OF A CANARD AND AN OUTBOARD-TAIL AIRPLANE MODEL AT A MACH NUMBER OF 2.01. M. Leroy Spearman and Ross B. Robinson. March 1958. 35p. diagrs., photos., tabs. (NACA RM L58B07) CONFIDENTIAL

WIND-TUNNEL INVESTIGATION AT A MACH NUMBER OF 2.01 OF FOREBODY STRAKES FOR IMPROVING DIRECTIONAL STABILITY OF SUPERSONIC AIRCRAFT. Cornellus Driver. May 1958. 32p. diagrs., tabs. (NACA RM L58C11) CONFIDENTIAL

INVESTIGATION OF AERODYNAMIC CHARACTERISTICS OF AN AIRPLANE CONFIGURATION HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS AT MACH NUMBERS OF 2.30, 2.97, AND 3.51. James D. Church, William C. Hayes, Jr., and William C. Sleeman, Jr. June 1958. 48p. diagrs., photos., tab. (NACA RM L58C25) CONFIDENTIAL

EFFECTS OF BOATTAIL AREA CONTOURING AND SIMULATED TURBOJET EXHAUST ON THE LOADING AND FUSELAGE-TAIL COMPONENT DRAG OF A TWIN-ENGINE FIGHTER-TYPE AIRPLANE MODEL. Willard E. Foss, Jr., Jack F. Runckel, and Edwin E. Lee, Jr. July 1958. 62p. diagrs., photos., tabs. (NACA RM L58C04) CONFIDENTIAL

EFFECTS OF VERTICAL LOCATION OF THE WING AND HORIZONTAL TAIL ON THE STATIC LATERAL AND DIRECTIONAL STABILITY OF A TRAPEZOIDAL-WING AIRPLANE MODEL AT MACH NUMBERS OF 1.41 AND 2.01. Ross B. Robinson. July 1958. 166p. diagrs., tabs. (NACA RM L58C18) CONFIDENTIAL

EFFECTS OF WING SWEEP, HORIZONTAL-TAIL CONFIGURATION, AND A VENTRAL FIN ON STATIC STABILITY CHARACTERISTICS OF A MODEL WITH A WING OF ASPECT RATIO 3 AT MACH NUMBERS FROM 2.29 TO 4.65. Byron M. Jaquet and Roger H. Fournier. July 1958. 88p. diagrs., photos., tabs. (NACA RM L58E06) CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED STABILITY AND PERFORMANCE CHARACTERISTICS OF A JET-POWERED LOW-ASPECT-RATIO VERTICAL-TAKE-OFF-AND-LANDING CONFIGURATION WITH ENGINES BURIED IN TILTABLE WINGS. William I. Scallion and Clarence D. Cone, Jr. August 1958. 58p. diagrs., photos. (NACA RM L58F02) CONFIDENTIAL

INVESTIGATION OF A TILTING-WING VERTICAL-TAKE-OFF-AND-LANDING JET AIRPLANE MODEL IN HOVERING AND TRANSITION FLIGHT. Robert H. Kirby and James L. Hassell, Jr. August 1958. 20p. diagrs., photo., tab., film suppl. available on request. (NACA RM L58F26) CONFIDENTIAL

THE STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES AT SUBSONIC SPEEDS OF A MODEL OF THE X-15 RESEARCH AIRPLANE. Armando E. Lopez and Bruce E. Tinling. September 1958. 49p. diagrs., photos., tab. (NACA RM A58F09) CONFIDENTIAL

STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES OF AN AIRPLANE MODEL WITH AN UNSWEPT WING AND A HIGH HORIZONTAL TAIL AT MACH NUMBERS OF 2.5, 3.0, AND 3.5. Bedford A. Lampkin and Phillips J. Tunnell. September 1958. 36p. diagrs., photos., tab. (NACA RM A58F17) CONFIDENTIAL

(1.7.1.1.5)
Stores

EXPERIMENTAL AND THEORETICAL DETERMINATION OF FORCES AND MOMENTS ON A STORE AND ON A STORE-PYLON COMBINATION MOUNTED ON A 45° SWEEP-WING-FUSELAGE CONFIGURATION AT A MACH NUMBER OF 1.61. Odell A. Morris, Harry W. Carlson, and Douglas J. Geier. January 1958. 123p. diagrs., photos. (NACA RM L57K18) CONFIDENTIAL

SUBSONIC AERODYNAMIC CHARACTERISTICS UP TO EXTREME ANGLES OF ATTACK OF AN AIRPLANE MODEL HAVING AN UNSWEPT WING AND A HIGH HORIZONTAL TAIL. Bruce E. Tinling. February 1958. 25p. diagrs., photos., tab. (NACA RM A57K05) CONFIDENTIAL

FREE-FLIGHT INVESTIGATION AT MACH NUMBERS FROM 0.8 TO 1.5 OF THE EFFECT OF A FUSELAGE INDENTATION ON THE ZERO-LIFT DRAG OF A 52.5° SWEEPBACK-WING-BODY CONFIGURATION WITH SYMMETRICALLY MOUNTED STORES ON THE FUSELAGE. Sherwood Hoffman. February 1958. 27p. diagrs., photos., tabs. (NACA RM L57L04) CONFIDENTIAL

AN INVESTIGATION OF SUPERSONIC STORE INTERFERENCE IN THE VICINITY OF A 22° SWEEP-WING-FUSELAGE CONFIGURATION AT MACH NUMBERS OF 1.61 AND 2.01. Douglas J. Geier. February 1958. 105p. diagrs., tab. (NACA RM L57L18) CONFIDENTIAL

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(1) AERODYNAMICS

STATIC LONGITUDINAL AND LATERAL STABILITY AND CONTROL CHARACTERISTICS OF A MODEL OF A SWEEP-WING FIGHTER-BOMBER-TYPE AIRPLANE WITH A TOP INLET AT MACH NUMBERS FROM 1.6 TO 2.35. A. Vernon Gnos and Richard L. Kurkowski. March 1958. 55p. diagrs., photos., tab. (NACA RM A57K20) CONFIDENTIAL

THE EFFECT OF MOMENT-OF-AREA-RULE MODIFICATIONS ON THE ZERO-LIFT DRAG OF THREE WING-BODY COMBINATIONS. Robert R. Dickey. May 1958. 29p. diagrs., tabs. (NACA RM A58A31) CONFIDENTIAL

FLIGHT INVESTIGATION OF THE AERODYNAMIC FORCES ON A WING-MOUNTED EXTERNAL-STORE INSTALLATION ON THE DOUGLAS D-558-II RESEARCH AIRPLANE. Clinton T. Johnson. May 1958. 42p. diagrs., photos., tabs. (NACA RM H58B24) CONFIDENTIAL

EFFECTS OF EXTERNAL STORE-PYLON CONFIGURATION AND POSITION ON THE AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP WING-FUSELAGE COMBINATION AT A MACH NUMBER OF 1.61. Odell A. Morris. May 1958. 52p. diagrs. (NACA RM L58C13) CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-AIRPLANE MODEL AND AERODYNAMIC LOADS ON ADJACENT STORES AND MISSILES AT MACH NUMBERS OF 1.57, 1.87, 2.16, AND 2.53. Waldo I. Oehman and Kenneth L. Turner. June 1958. 107p. diagrs., photos., tabs. (NACA RM L58C17) CONFIDENTIAL

(1.7.1.1.6)
Jet Interference

EFFECT OF TARGET-TYPE THRUST REVERSER ON TRANSONIC AERODYNAMIC CHARACTERISTICS OF A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart. January 1958. 42p. diagrs., photos., tab. (NACA RM L57J16) CONFIDENTIAL

LONGITUDINAL STABILITY INVESTIGATION OF A VERTICAL-TAKE-OFF-AND-LANDING AIRPLANE CONFIGURATION WITH SIMULATED JET INTAKE AND EXHAUST AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. January 1958. 80p. diagrs., photos., tab. (NACA RM L57K05) CONFIDENTIAL

TABULATED PRESSURE DATA FOR A 60° DELTA-WING-BODY-TAIL MODEL WITH A HOT JET EXHAUSTING FROM A PYLON-MOUNTED NACELLE. Edwin E. Lee, Jr., and John M. Swihart. February 1958. 199p. diagrs., photos., tabs. (NACA RM L57J22) CONFIDENTIAL

FREE-FLIGHT TRANSONIC MODEL INVESTIGATION OF JET EFFECTS ON A FIGHTER-TYPE CONFIGURATION EMPLOYING A TAIL BOOM AND THREE HORIZONTAL-TAIL POSITIONS. Bruce G. Jackson. February 1958. 83p. diagrs., photos., tabs. (NACA RM L57J31) CONFIDENTIAL

EFFECT OF A HOT-JET EXHAUST ON PRESSURE DISTRIBUTIONS AND EXTERNAL DRAG OF SEVERAL AFTERBODIES ON A SINGLE-ENGINE AIRPLANE MODEL AT TRANSONIC SPEEDS. Harry T. Norton, Jr., and John M. Swihart. March 1958. 58p. diagrs., photos., tab. (NACA RM L57J04) CONFIDENTIAL

INVESTIGATION AT TRANSONIC SPEEDS OF A FIXED DIVERGENT EJECTOR INSTALLED IN A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart and Charles E. Mercer. March 1958. 32p. diagrs., photos. (NACA RM L57L10a) CONFIDENTIAL

EFFECTS OF BOATTAIL AREA CONTOURING AND SIMULATED TURBOJET EXHAUST ON THE LOADING AND FUSELAGE-TAIL COMPONENT DRAG OF A TWIN-ENGINE FIGHTER-TYPE AIRPLANE MODEL. Willard E. Foss, Jr., Jack F. Runckel, and Edwin E. Lee, Jr. July 1958. 62p. diagrs., photos., tabs. (NACA RM L58C04) CONFIDENTIAL

PERFORMANCE OF MULTIPLE JET-EXIT INSTALLATIONS. John M. Swihart and William J. Nelson. July 1958. 13p. diagrs., photos. (NACA RM L58E01) CONFIDENTIAL

EFFECT OF CONVERGENT EJECTOR NOZZLES ON THE BOATTAIL DRAG OF A 16° CONICAL AFTERBODY AT MACH NUMBERS OF 0.6 TO 1.26. James M. Cabbage, Jr. September 1958. 33p. diagrs., photos. (NACA RM L58G25) CONFIDENTIAL

(1.7.1.2)
SPECIFIC AIRPLANES

TRANSONIC AERODYNAMIC AND TRIM CHARACTERISTICS OF A MULTI-ENGINE DELTA-WING AIRPLANE MODEL. John M. Swihart and Willard E. Foss, Jr. February 17, 1956. 67p. diagrs., photos., tabs. (NACA RM L55I27b) CONFIDENTIAL

TRACKING PERFORMANCE OF A SWEEP-WING FIGHTER WITH A DIRECTOR-TYPE RADAR FIRE-CONTROL SYSTEM AND SCOPE PRESENTATION. Howard L. Turner, George A. Rathert, Jr., and Donovan R. Heinle. January 1958. 24p. diagrs., photo. (NACA RM A57J01) CONFIDENTIAL

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(1) AERODYNAMICS

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE ALL-MOVABLE HORIZONTAL TAIL OF A FIGHTER AIRPLANE. Thomas B. Sellers. January 1958. 30p. diagrs., photos., tabs. (NACA RM L57K13) **CONFIDENTIAL**

BUFFET TESTS OF AN ATTACK-AIRPLANE MODEL WITH EMPHASIS ON ANALYSIS OF DATA FROM WIND-TUNNEL TESTS. Don D. Davis, Jr., and Dewey E. Wornom. February 1958. 56p. diagrs., photos., tab. (NACA RM L57H13) **CONFIDENTIAL**

STATIC LONGITUDINAL AND LATERAL STABILITY AND CONTROL CHARACTERISTICS OF A MODEL OF A SWEEP-WING FIGHTER-BOMBER-TYPE AIRPLANE WITH A TOP INLET AT MACH NUMBERS FROM 1.6 TO 2.35. A. Vernon Gnos and Richard L. Kurkowski. March 1958. 55p. diagrs., photos., tab. (NACA RM A57K20) **CONFIDENTIAL**

FLIGHT EVALUATION OF THE EFFECTS OF LEADING-EDGE-SLAT SPAN ON THE STABILITY AND CONTROL CHARACTERISTICS OF A SWEEP-WING FIGHTER-TYPE AIRPLANE DURING ACCELERATED LONGITUDINAL MANEUVERS AT TRANSONIC SPEEDS. Gene J. Matranga and Katharine H. Armistead. March 1958. 46p. diagrs., photo., tab. (NACA RM H58A03a) **CONFIDENTIAL**

EFFECT OF A HOT-JET EXHAUST ON PRESSURE DISTRIBUTIONS AND EXTERNAL DRAG OF SEVERAL AFTERBODIES ON A SINGLE-ENGINE AIRPLANE MODEL AT TRANSONIC SPEEDS. Harry T. Norton, Jr., and John M. Swihart. March 1958. 58p. diagrs., photos., tab. (NACA RM L57J04) **CONFIDENTIAL**

AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 60p. diagrs., tabs. (NACA RM A57K07) **CONFIDENTIAL**

ANALYSIS OF FLIGHT-DETERMINED AND PREDICTED EFFECTS OF FLEXIBILITY ON THE STEADY-STATE WING LOADS OF THE B-52 AIRPLANE. Albert E. Kuhl, John T. Rogers, and Mary V. Little. April 1958. 57p. diagrs., photo., tab. (NACA RM H57C25) **CONFIDENTIAL**

AN ANALYSIS OF SURFACE PRESSURES AND AERODYNAMIC LOAD DISTRIBUTION OVER THE SWEEP WING OF THE DOUGLAS D-558-II RESEARCH AIRPLANE AT MACH NUMBERS FROM 0.73 TO 1.73. Norman V. Taillon. April 1958. 51p. diagrs., photo., tabs. (NACA RM H58A30) **CONFIDENTIAL**

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE SWEEPBACK WING OF A FIGHTER AIRPLANE. Samuel L. Smith III and Robert W. Boswinkle, Jr. April 1958. 26p. diagrs., photos., tabs. (NACA RM L58A15) **CONFIDENTIAL**

A COMPARISON OF FLIGHT-MEASURED CARRIER-APPROACH SPEEDS WITH VALUES PREDICTED BY SEVERAL DIFFERENT CRITERIA FOR 41 FIGHTER-TYPE AIRPLANE CONFIGURATIONS. Maurice D. White, Bernard A. Schlaff, and Fred J. Drinkwater III. May 1958. 127p. diagrs., tabs. (NACA RM A57L11) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matranga. June 1958. 39p. diagrs., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diagrs., photos., tabs. (NACA RM H58D29) **CONFIDENTIAL**

BOUNDARY-LAYER-TRANSITION MEASUREMENTS IN FULL-SCALE FLIGHT. Richard D. Banner, John G. McTigue, and Gilbert Petty, Jr. July 1958. 10p. diagrs., photos. (NACA RM H58E28) **CONFIDENTIAL**

EFFECTS OF BOATTAIL AREA CONTOURING AND SIMULATED TURBOJET EXHAUST ON THE LOADING AND FUSELAGE-TAIL COMPONENT DRAG OF A TWIN-ENGINE FIGHTER-TYPE AIRPLANE MODEL. Willard E. Foss, Jr., Jack F. Runkel, and Edwin E. Lee, Jr. July 1958. 62p. diagrs., photos., tabs. (NACA RM L58C04) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF A FULL-SCALE AIRCRAFT EJECTOR WITH VARIOUS SPACING RATIOS AND CORRELATION WITH SMALL-SCALE TESTS. C. Dewey Havill and Rodney C. Wingrove. August 1958. 48p. diagrs., photos., tab. (NACA RM A58D21) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF THE LOW-SPEED CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-TYPE AIRPLANE WITH BLOWING BOUNDARY-LAYER CONTROL APPLIED TO THE TRAILING-EDGE FLAPS. Hervey C. Quigley, Seth B. Anderson, and Robert C. Innis. August 1958. 50p. diagrs., photos., tabs. (NACA RM A58E05) **CONFIDENTIAL**

PRELIMINARY STUDIES OF MANNED SATELLITES WINGLESS CONFIGURATION: NONLIFTING. Maxime A. Faget, Benjamine J. Garland, and James J. Buglia. August 1958. 16p. diagrs., tab. (NACA RM L58E07a) **CONFIDENTIAL**

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(1) AERODYNAMICS

THE STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES AT SUBSONIC SPEEDS OF A MODEL OF THE X-15 RESEARCH AIRPLANE. Armando E. Lopez and Bruce E. Tinling. September 1958. 49p. diagrs., photos., tab. (NACA RM A58F09)

CONFIDENTIAL

MEASUREMENTS OF THE BUFFETING LOADS ON THE WING AND HORIZONTAL TAIL OF A 1/4-SCALE MODEL OF THE X-1E AIRPLANE.

A. Gerald Rainey and William B. Igoe. September 1958. 35p. diagrs., photo., tabs.

(NACA RM L58F25)

CONFIDENTIAL

(1.7.1.3)
PERFORMANCE

TRANSONIC AERODYNAMIC AND TRIM CHARACTERISTICS OF A MULTI-ENGINE DELTA-WING AIRPLANE MODEL. John M. Swihart and Willard E. Foss, Jr. February 17, 1956. 67p. diagrs., photos., tabs. (NACA RM L55I27b)

CONFIDENTIAL

A SIMULATOR INVESTIGATION OF FACTORS AFFECTING THE DESIGN AND UTILIZATION OF A STICK PUSHER FOR THE PREVENTION OF AIRPLANE PITCH-UP. Euclid C. Holleman and David L. Boslaugh. January 1958. 71p. diagrs.

(NACA RM H57J30)

CONFIDENTIAL

EFFECT OF A HOT-JET EXHAUST ON PRESSURE DISTRIBUTIONS AND EXTERNAL DRAG OF SEVERAL AFTERBODIES ON A SINGLE-ENGINE AIRPLANE MODEL AT TRANSONIC SPEEDS. Harry T. Norton, Jr., and John M. Swihart. March 1958. 58p. diagrs., photos., tab. (NACA RM L57J04)

CONFIDENTIAL

INVESTIGATION AT TRANSONIC SPEEDS OF A FIXED DIVERGENT EJECTOR INSTALLED IN A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart and Charles E. Mercer. March 1958. 32p. diagrs., photos. (NACA RM L57L10a)

CONFIDENTIAL

EFFECTS OF CANARD SURFACE SIZE ON STABILITY AND CONTROL CHARACTERISTICS OF TWO CANARD AIRPLANE CONFIGURATIONS AT MACH NUMBERS OF 1.41 AND 2.01. M. Leroy Spearman and Cornelius Driver. March 1958. 61p. diagrs., photo., tabs. (NACA RM L57L17a)

CONFIDENTIAL

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING.

Chris Pembo and Gene J. Matrangola. June 1958.

39p. diagrs., photo., tab. (NACA RM H58C28)

CONFIDENTIAL

INVESTIGATION OF AERODYNAMIC CHARACTERISTICS OF AN AIRPLANE CONFIGURATION HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS AT MACH NUMBERS OF 2.30, 2.97, AND 3.51.

James D. Church, William C. Hayes, Jr., and William C. Sleeman, Jr. June 1958. 48p. diagrs., photos., tab. (NACA RM L58C25)

CONFIDENTIAL

INVESTIGATION OF THE AERODYNAMIC CHARACTERISTICS OF A MODEL OF A SUPERSONIC BOMBER CONFIGURATION WITH A SWEEPED AND AN UNSWEEPED WING AT MACH NUMBERS FROM 1.79 TO 2.67. H. Norman Silvers and Raymond L. Zedekar. July 1958. 24p. diagrs., photos., tab.

(NACA RM L58C27)

CONFIDENTIAL

PERFORMANCE OF MULTIPLE JET-EXIT INSTALLATIONS. John M. Swihart and William J. Nelson. July 1958. 13p. diagrs., photos.

(NACA RM L58E01)

CONFIDENTIAL

FLIGHT INVESTIGATION OF A FULL-SCALE AIRCRAFT EJECTOR WITH VARIOUS SPACING RATIOS AND CORRELATION WITH SMALL-SCALE TESTS. C. Dewey Havill and Rodney C. Wingrove. August 1958. 48p. diagrs., photos., tab.

(NACA RM A58D21)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS 2.36 AND 2.87 OF AN AIRPLANE CONFIGURATION HAVING A CAMBERED ARROW WING WITH A 75° SWEEPED LEADING EDGE. Joseph M. Hallissy, Jr., and Dennis F. Hasson. August 1958. 63p. diagrs., photos., tabs. (NACA RM L58E21)

CONFIDENTIAL

ANALYSIS OF EFFECTS OF INTERCEPTOR ROLL PERFORMANCE AND MANEUVERABILITY ON SUCCESS OF COLLISION-COURSE ATTACKS. William H. Phillips. August 1958. 37p. diagrs., tabs. (NACA RM L58E27)

CONFIDENTIAL

AERODYNAMIC PERFORMANCE AND STATIC STABILITY AND CONTROL OF FLAT-TOP HYPERSONIC GLIDERS AT MACH NUMBERS FROM 0.6 TO 18. Clarence A. Syvertson, Hermilo R. Gloria, and Michael F. Sarabia. September 1958. 56p. diagrs., tabs. (NACA RM A58G17)

CONFIDENTIAL

(1.7.2)
MISSILES

SOME EFFECTS OF REYNOLDS NUMBER ON THE STABILITY OF A SERIES OF FLARED-BODY AND BLUNTED-CONE MODELS AT MACH NUMBERS FROM 1.62 TO 6.86. Alan B. Kehlet. January 1958. 35p. diagrs., photos., tabs.

(NACA RM L57J29)

CONFIDENTIAL

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(1) AERODYNAMICS

PRELIMINARY SURVEY OF POSSIBLE COOLING METHODS FOR HYPERSONIC AIRCRAFT. Jack B. Esgar, Robert O. Hickel, and Francis S. Stepka. May 1958. 37p. diagrs. (NACA RM E57L19) **CONFIDENTIAL**

HYDRODYNAMIC CHARACTERISTICS OF MISSILES LAUNCHED UNDER WATER. John R. Dawson. June 1958. 7p. diagrs., photo., film suppl. available on request. (NACA RM L58E09a) **CONFIDENTIAL**

INVESTIGATION OF CONTROL EFFECTIVENESS AND STABILITY CHARACTERISTICS OF A MODEL OF A LOW-WING MISSILE WITH INTERDIGITATED TAIL SURFACES AT MACH NUMBERS OF 2.29, 2.97, AND 3.51. John G. Presnell, Jr. July 1958. 28p. diagrs., photos., tab. (NACA RM L58C19) **CONFIDENTIAL**

STABILITY OF BALLISTIC REENTRY BODIES. John D. Bird and David E. Reese. August 1958. 16p. diagrs., tab. (NACA RM L58E02a) **CONFIDENTIAL**

FREE-FLIGHT INVESTIGATION OF AERODYNAMIC HEAT TRANSFER TO A SIMULATED GLIDE-ROCKET SHAPE AT MACH NUMBERS UP TO 10. Andrew G. Swanson. September 1958. 49p. diagrs., photos., tabs. (NACA RM L58G03) **CONFIDENTIAL**

(1.7.2.1)

COMPONENTS IN COMBINATION

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD. John W. Boyd and Victor L. Peterson. January 1958. 32p. diagrs., photo., tabs. (NACA RM A57J15) **CONFIDENTIAL**

FREE-FLIGHT PRESSURE MEASUREMENTS OVER A FLARE-STABILIZED ROCKET MODEL WITH A MODIFIED VON KARMAN NOSE FOR MACH NUMBERS UP TO 4.3. William M. Bland, Jr., and Ronald Kolenkiewicz. January 1958. 21p. diagrs., photos., tabs. (NACA RM L57J24) **CONFIDENTIAL**

FREE-FLIGHT ROLL PERFORMANCE OF A STEADY-FLOW JET-SPOILER CONTROL ON AN 80° DELTA-WING MISSILE BETWEEN MACH NUMBERS OF 0.6 AND 1.8. Eugene D. Schult. January 1958. 35p. diagrs., photos. (NACA RM L57J28) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - TRIANGULAR WING AND CANARD ON AN EXTENDED BODY. John W. Boyd and Victor L. Peterson. February 1958. 62p. diagrs., tabs. (NACA RM A57K14) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND UNSWEPT CANARD. Victor L. Peterson and Gene P. Menees. February 1958. 31p. diagrs., tabs. (NACA RM A57K26) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF AN UNSWEPT WING AND CANARD. Victor L. Peterson and John W. Boyd. February 1958. 29p. diagrs., tabs. (NACA RM A57K27) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LATERAL-DIRECTIONAL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD. Victor L. Peterson and Gene P. Menees. March 1958. 76p. diagrs., photo., tabs. (NACA RM A57L18) **CONFIDENTIAL**

AERODYNAMIC AND INLET-FLOW-FIELD CHARACTERISTICS AT A FREE-STREAM MACH NUMBER OF 3.0 FOR AIRPLANES WITH CIRCULAR FUSELAGE CROSS SECTIONS AND FOR TWO ENGINE LOCATIONS. Murray Dryer and Roger W. Luidens. March 1958. 32p. diagrs., tab. (NACA RM E57K26) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD CONFIGURATION AT MACH NUMBERS FROM 2.58 TO 3.53. C. Ernest Hedstrom, James R. Blackaby, and Victor L. Peterson. May 1958. 62p. diagrs., photos., tabs. (NACA RM A58C05) **CONFIDENTIAL**

A FEASIBILITY STUDY OF THE FLARE-CYLINDER CONFIGURATION AS A REENTRY BODY SHAPE FOR AN INTERMEDIATE RANGE BALLISTIC MISSILE. James R. Hall and Benjamin J. Garland. May 1958. 23p. diagrs. (NACA RM L58C21) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-AIRPLANE MODEL AND AERODYNAMIC LOADS ON ADJACENT STORES AND MISSILES AT MACH NUMBERS OF 1.57, 1.87, 2.16, AND 2.53. Waldo I. Oehman and Kenneth L. Turner. June 1958. 107p. diagrs., photos., tabs. (NACA RM L58C17) **CONFIDENTIAL**

MANEUVER PERFORMANCE OF INTERCEPTOR MISSILES. David G. Stone. June 1958. 12p. diagrs. (NACA RM L58E02) **CONFIDENTIAL**

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(1) AERODYNAMICS

EFFECTS OF CANARDS ON AIRPLANE PERFORMANCE AND STABILITY. Charles F. Hall and John W. Boyd. July 1958. 24p. diagsr. (NACA RM A58D24) **CONFIDENTIAL**

INVESTIGATION OF WINGLESS MISSILE CONFIGURATIONS WITH FOLDING CONTROLS AND LOW-ASPECT-RATIO STABILIZING SURFACES. Frank A. Lazzeroni. September 1958. 33p. diagsr., photo. (NACA RM A58F30) **CONFIDENTIAL**

EXPERIMENTAL STUDY OF BALLISTIC-MISSILE BASE HEATING WITH OPERATING ROCKET. J. Cary Nettles. September 1958. 10p. diagsr., photo. (NACA RM E58G17) **CONFIDENTIAL**

(1.7.2.1.1)

Wing-Body

EXPERIMENTAL LIFT-DRAG RATIOS FOR TWO FAMILIES OF WING-BODY COMBINATIONS AT SUPERSONIC SPEEDS. Leland H. Jorgensen. March 1958. 22p. diagsr., photos., tab. (NACA RM A58A08) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION AT A MACH NUMBER OF 2.01 OF THE AERODYNAMIC CHARACTERISTICS IN COMBINED ANGLES OF ATTACK AND SIDESLIP OF SEVERAL HYPERSONIC MISSILE CONFIGURATIONS WITH VARIOUS CANARD CONTROLS. Ross B. Robinson. March 1958. 34p. diagsr., photos., tabs. (NACA RM L58A21) **CONFIDENTIAL**

TRANSONIC INVESTIGATION OF YAWED WINGS OF ASPECT RATIOS 3 AND 6 WITH A SEARS-HAACK BODY AND WITH SYMMETRICAL AND ASYMMETRICAL BODIES INDENTED FOR A MACH NUMBER OF 1.20. George H. Holdaway and Elaine W. Hatfield. June 1958. 111p. diagsr., photos., tabs. (NACA RM A58C03) **CONFIDENTIAL**

EXPERIMENTAL INVESTIGATION OF THE DRAG DUE TO WEDGES ALONG THE TRAILING EDGE OF A SWEEP WING. Bruno J. Gambucci and John A. Wyss. June 1958. 15p. diagsr., photos. (NACA RM A58D15) **CONFIDENTIAL**

(1.7.2.1.2)

Tail-Body

A WIND-TUNNEL INVESTIGATION OF SEVERAL WINGLESS MISSILE CONFIGURATIONS AT SUPERSONIC SPEEDS. David E. Reese, Jr. February 1958. 51p. diagsr., photos., tabs. (NACA RM A57J22) **CONFIDENTIAL**

AN EXPERIMENTAL INVESTIGATION OF THE STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A WINGLESS MISSILE CONFIGURATION AT MACH NUMBERS FROM 3.0 TO 6.3. Hermilo R. Gloria. June 1958. 29p. diagsr., photos., tabs. (NACA RM A58C20) **CONFIDENTIAL**

(1.7.2.1.3)

Jet Interference

AN INVESTIGATION AT MACH NUMBERS 1.94 AND 2.41 OF JET EFFECTS UPON THE LONGITUDINAL AND DIRECTIONAL STABILITY OF A GENERAL AIRCRAFT CONFIGURATION EMPLOYING WING-TIP-MOUNTED NACELLES. Frank L. Clark and Clyde L. W. Edwards. March 1958. 69p. diagsr., photos. (NACA RM L57L18a) **CONFIDENTIAL**

JET EFFECTS ON THE BASE DRAG OF A CYLINDRICAL AFTERBODY WITH EXTENDED NOZZLES. William J. Nelson and William R. Scott. April 1958. 41p. diagsr., photos. (NACA RM L58A27) **CONFIDENTIAL**

PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diagsr., photos., tabs. (NACA RM L58D09) **CONFIDENTIAL**

(1.7.2.1.4)

Wing-Tail-Body

TRANSONIC LATERAL AND LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A LATERAL-CONTROL SYSTEM EMPLOYING ROTATABLE AIRFOILS MOUNTED VERTICALLY AT THE WING TIPS OF AN UNSWEPT WING-FUSELAGE-TAIL COMBINATION. John A. Axelson. January 1958. 43p. diagsr., photos. (NACA RM A57J16) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION AT A MACH NUMBER OF 2.01 OF THE AERODYNAMIC CHARACTERISTICS IN COMBINED ANGLES OF ATTACK AND SIDESLIP OF SEVERAL HYPERSONIC MISSILE CONFIGURATIONS WITH VARIOUS CANARD CONTROLS. Ross B. Robinson. March 1958. 34p. diagsr., photos., tabs. (NACA RM L58A21) **CONFIDENTIAL**

EVALUATION OF SOME AERODYNAMIC CONTROLS FOR A LOW-ASPECT-RATIO MISSILE. Warren Winovich and Nancy S. Higdon. July 1958. 12p. diagsr. (NACA RM A58D17b) **CONFIDENTIAL**

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(1) AERODYNAMICS

AERODYNAMIC CHARACTERISTICS AT A MACH NUMBER OF 6.8 OF TWO HYPERSONIC MISSILE CONFIGURATIONS, ONE WITH LOW-ASPECT-RATIO CRUCIFORM FINS AND TRAILING-EDGE FLAPS AND ONE WITH A FLARED AFTERBODY AND ALL-MOVABLE CONTROLS. Ross B. Robinson and Peter T. Bernot. August 1958. 19p. diagrs., tabs. (NACA RM L58D24) ~~CONFIDENTIAL~~

LONGITUDINAL AND LATERAL AERODYNAMIC CHARACTERISTICS AT COMBINED ANGLES OF ATTACK AND SIDESLIP OF A GENERALIZED MISSILE MODEL HAVING A RECTANGULAR WING AT A MACH NUMBER OF 4.08. Fred M. Smith, Edward F. Ulmann, and Robert W. Dunning. August 1958. 91p. diagrs., photos., tabs. (NACA RM L58E26) ~~CONFIDENTIAL~~

(1.7.2.2)
SPECIFIC MISSILES

INVESTIGATION OF THE STATIC STABILITY CHARACTERISTICS OF FIVE HYPERSONIC MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 2.29 TO 4.65. Kenneth L. Turner and W. H. Appich, Jr. June 1958. 88p. diagrs., photos., tab. (NACA RM L58D04) ~~CONFIDENTIAL~~

MANEUVER PERFORMANCE OF INTERCEPTOR MISSILES. David G. Stone. June 1958. 12p. diagrs. (NACA RM L58E02) ~~CONFIDENTIAL~~

PRELIMINARY STUDIES OF MANNED SATELLITES WINGLESS CONFIGURATION: NONLIFTING. Maxime A. Faget, Benjamin J. Garland, and James J. Buglia. August 1958. 16p. diagrs., tab. (NACA RM L58E07a) ~~CONFIDENTIAL~~

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(1) AERODYNAMICS

(1.8)

Stability and Control

TRANSONIC AERODYNAMIC AND TRIM CHARACTERISTICS OF A MULTI-ENGINE DELTA-WING AIRPLANE MODEL. John M. Swihart and Willard E. Foss, Jr. February 17, 1956. 67p. diagrs., photos., tabs. (NACA RM L55127b) **CONFIDENTIAL**

EFFECT OF TARGET-TYPE THRUST REVERSER ON TRANSONIC AERODYNAMIC CHARACTERISTICS OF A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart. January 1958. 42p. diagrs., photos., tab. (NACA RM L57J16) **CONFIDENTIAL**

SIMULATION STUDY OF A HIGH-PERFORMANCE AIRCRAFT INCLUDING THE EFFECT ON PILOT CONTROL OF LARGE ACCELERATIONS DURING EXIT AND REENTRY FLIGHT. C. H. Woodling, James B. Whitten, Robert A. Champine, and Robert E. Andrews. July 1958. 10p. diagrs., photos., film suppl. available on request. (NACA RM L58E08a) **CONFIDENTIAL**

(1.8.1) STABILITY

STUDY OF EXIT PHASE OF FLIGHT OF A VERY HIGH ALTITUDE HYPERSONIC AIRPLANE BY MEANS OF A PILOT-CONTROLLED ANALOG COMPUTER. Windsor L. Sherman, Stanley Faber, and James B. Whitten. APPENDIX: THE ANALOG SIMULATOR PROGRAMING. Robert E. Andrews. March 1958. 53p. diagrs., photo., tabs. (NACA RM L57K21) **CONFIDENTIAL**

(1.8.1.1) STATIC

SOME EFFECTS OF REYNOLDS NUMBER ON THE STABILITY OF A SERIES OF FLARED-BODY AND BLUNTED-CONE MODELS AT MACH NUMBERS FROM 1.62 TO 6.86. Alan B. Kehlet. January 1958. 35p. diagrs., photos., tabs. (NACA RM L57J29) **CONFIDENTIAL**

SUBSONIC AERODYNAMIC CHARACTERISTICS UP TO EXTREME ANGLES OF ATTACK OF AN AIRPLANE MODEL HAVING AN UNSWEPT WING AND A HIGH HORIZONTAL TAIL. Bruce E. Tinling. February 1958. 25p. diagrs., photos., tab. (NACA RM A57K05) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - TRIANGULAR WING AND CANARD ON AN EXTENDED BODY. John W. Boyd and Victor L. Peterson. February 1958. 62p. diagrs., tabs. (NACA RM A57K14) **CONFIDENTIAL**

STATIC LONGITUDINAL AND LATERAL STABILITY AND CONTROL CHARACTERISTICS OF A MODEL OF A SWEEP-WING FIGHTER-BOMBER-TYPE AIRPLANE WITH A TOP INLET AT MACH NUMBERS FROM 1.6 TO 2.35. A. Vernon Gnos and Richard L. Kurkowski. March 1958. 55p. diagrs., photos., tab. (NACA RM A57K20) **CONFIDENTIAL**

AERODYNAMIC AND INLET-FLOW-FIELD CHARACTERISTICS AT A FREE-STREAM MACH NUMBER OF 3.0 FOR AIRPLANES WITH CIRCULAR FUSELAGE CROSS SECTIONS AND FOR TWO ENGINE LOCATIONS. Murray Dryer and Roger W. Luidens. March 1958. 32p. diagrs., tab. (NACA RM E57K26) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD CONFIGURATION AT MACH NUMBERS FROM 2.58 TO 3.53. C. Ernest Hedstrom, James R. Blackaby, and Victor L. Peterson. May 1958. 62p. diagrs., photos., tabs. (NACA RM A58C05) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-AIRPLANE MODEL AND AERODYNAMIC LOADS ON ADJACENT STORES AND MISSILES AT MACH NUMBERS OF 1.57, 1.87, 2.16, AND 2.53. Waldo I. Oehman and Kenneth L. Turner. June 1958. 107p. diagrs., photos., tabs. (NACA RM L58C17) **CONFIDENTIAL**

EFFECTS OF CANARDS ON AIRPLANE PERFORMANCE AND STABILITY. Charles F. Hall and John W. Boyd. July 1958. 24p. diagrs. (NACA RM A58D24) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL OF HYPERSONIC GLIDERS. Robert W. Rainey. July 1958. 16p. diagrs., tab. (NACA RM L58E12a) **CONFIDENTIAL**

AIRPLANE CONFIGURATIONS FOR CRUISE AT A MACH NUMBER OF 3. Donald D. Baals, Thomas A. Toll, and Owen G. Morris. August 1958. 22p. diagrs. (NACA RM L58E14a) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS 2.36 AND 2.87 OF AN AIRPLANE CONFIGURATION HAVING A CAMBERED ARROW WING WITH A 75° SWEEP LEADING EDGE. Joseph M. Hallissy, Jr., and Dennis F. Hasson. August 1958. 63p. diagrs., photos., tabs. (NACA RM L58E21) **CONFIDENTIAL**

THE STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES AT SUBSONIC SPEEDS OF A MODEL OF THE X-15 RESEARCH AIRPLANE. Armando E. Lopez and Bruce E. Tinling. September 1958. 49p. diagrs., photos., tab. (NACA RM A58F09) **CONFIDENTIAL**

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(1) AERODYNAMICS

STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES OF AN AIRPLANE MODEL WITH AN UNSWEPT WING AND A HIGH HORIZONTAL TAIL AT MACH NUMBERS OF 2.5, 3.0, AND 3.5. Bedford A. Lampkin and Phillips J. Tunnell. September 1958. 36p. diagrs., photos., tab. (NACA RM A58F17) CONFIDENTIAL

AERODYNAMIC PERFORMANCE AND STATIC STABILITY AND CONTROL OF FLAT-TOP HYPER-SONIC GLIDERS AT MACH NUMBERS FROM 0.6 TO 18. Clarence A. Syvertson, Hermilo R. Gloria, and Michael F. Sarabia. September 1958. 56p. diagrs., tabs. (NACA RM A58G17) CONFIDENTIAL

(1.8.1.1.1)
Longitudinal

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD. John W. Boyd and Victor L. Peterson. January 1958. 32p. diagrs., photo., tabs. (NACA RM A57J15) CONFIDENTIAL

TRANSONIC LATERAL AND LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A LATERAL-CONTROL SYSTEM EMPLOYING ROTATABLE AIRFOILS MOUNTED VERTICALLY AT THE WING TIPS OF AN UNSWEPT WING-FUSELAGE-TAIL COMBINATION. John A. Axelson. January 1958. 43p. diagrs., photos. (NACA RM A57J16) CONFIDENTIAL

A SIMULATOR INVESTIGATION OF FACTORS AFFECTING THE DESIGN AND UTILIZATION OF A STICK PUSHER FOR THE PREVENTION OF AIRPLANE PITCH-UP. Euclid C. Holleman and David L. Boslaugh. January 1958. 71p. diagrs. (NACA RM H57J30) CONFIDENTIAL

LONGITUDINAL STABILITY INVESTIGATION OF A VERTICAL-TAKE-OFF-AND-LANDING AIRPLANE CONFIGURATION WITH SIMULATED JET INTAKE AND EXHAUST AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. January 1958. 80p. diagrs., photos., tab. (NACA RM L57K05) CONFIDENTIAL

A WIND-TUNNEL INVESTIGATION OF SEVERAL WINGLESS MISSILE CONFIGURATIONS AT SUPER-SONIC SPEEDS. David E. Reese, Jr. February 1958. 51p. diagrs., photos., tabs. (NACA RM A57J22) CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND UNSWEPT CANARD. Victor L. Peterson and Gene P. Menees. February 1958. 31p. diagrs., tabs. (NACA RM A57K26) CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF AN UNSWEPT WING AND CANARD. Victor L. Peterson and John W. Boyd. February 1958. 29p. diagrs., tabs. (NACA RM A57K27) CONFIDENTIAL

FREE-FLIGHT TRANSONIC MODEL INVESTIGATION OF JET EFFECTS ON A FIGHTER-TYPE CONFIGURATION EMPLOYING A TAIL BOOM AND THREE HORIZONTAL-TAIL POSITIONS. Bruce G. Jackson. February 1958. 83p. diagrs., photos., tabs. (NACA RM L57J31) CONFIDENTIAL

EFFECT AT HIGH SUBSONIC SPEEDS OF FUSELAGE FOREBODY STRAKES ON THE STATIC STABILITY AND VERTICAL-TAIL-LOAD CHARACTERISTICS OF A COMPLETE MODEL HAVING A DELTA WING. Edward C. Polhamus and Kenneth P. Spreemann. February 1958. 32p. diagrs., photo. (NACA RM L57K15a) CONFIDENTIAL

TRANSONIC WIND-TUNNEL INVESTIGATION OF THE EFFECT OF A HORIZONTAL TAIL ON LONGITUDINAL STABILITY OF TWO 60° SWEEPBACK-WING-BODY CONFIGURATIONS WITH ASPECT RATIOS OF 2.67 AND 4.00. Joseph D. Brooks. February 1958. 21p. diagrs., photo., tabs. (NACA RM L57L11) CONFIDENTIAL

THE EFFECTS OF BODY VORTICES AND THE WING SHOCK-EXPANSION FIELD ON THE PITCH-UP CHARACTERISTICS OF SUPERSONIC AIRPLANES. Jack N. Nielsen. March 1958. 53p. diagrs. (NACA RM A57L23) CONFIDENTIAL

FLIGHT EVALUATION OF THE EFFECTS OF LEADING-EDGE-SLAT SPAN ON THE STABILITY AND CONTROL CHARACTERISTICS OF A SWEEP-WING FIGHTER-TYPE AIRPLANE DURING ACCELERATED LONGITUDINAL MANEUVERS AT TRANSONIC SPEEDS. Gene J. Matranga and Katharine H. Armistead. March 1958. 46p. diagrs., photo., tab. (NACA RM H58A03a) CONFIDENTIAL

INVESTIGATION OF THE STATIC LATERAL STABILITY AND ALERON CHARACTERISTICS OF A 0.067-SCALE MODEL OF THE BELL X-2 AIRPLANE AT MACH NUMBERS OF 2.29, 2.78, 3.22, AND 3.71. Roger H. Fournier and H. Norman Silvers. March 1958. 50p. diagrs., photos., tab. (NACA RM L57J28a) CONFIDENTIAL

EFFECTS OF CANARD SURFACE SIZE ON STABILITY AND CONTROL CHARACTERISTICS OF TWO CANARD AIRPLANE CONFIGURATIONS AT MACH NUMBERS OF 1.41 AND 2.01. M. Leroy Spearman and Cornelius Driver. March 1958. 61p. diagrs., photo., tabs. (NACA RM L57L17a) CONFIDENTIAL

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(1) AERODYNAMICS

AN INVESTIGATION AT MACH NUMBERS 1.94 AND 2.41 OF JET EFFECTS UPON THE LONGITUDINAL AND DIRECTIONAL STABILITY OF A GENERAL AIRCRAFT CONFIGURATION EMPLOYING WING-TIP-MOUNTED NACELLES. Frank L. Clark and Clyde L. W. Edwards. March 1958. 69p. diags., photos. (NACA RM L57L18a)

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INVESTIGATION OF THE LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A TRAPEZOIDAL-WING AIRPLANE MODEL WITH VARIOUS VERTICAL POSITIONS OF WING AND HORIZONTAL TAIL AT MACH NUMBERS OF 1.41 AND 2.01. Gerald V. Foster. March 1958. 43p. diags., tabs. (NACA RM L58A07)

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INVESTIGATION OF TWO BLUFF SHAPES IN AXIAL FREE FLIGHT OVER A MACH NUMBER RANGE FROM 0.35 TO 2.15. Lucille C. Coltrane. March 1958. 33p. diags., photos., tabs. (NACA RM L58A16)

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LONGITUDINAL AND LATERAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBER 2.01 OF A 60° DELTA-WING AIRPLANE CONFIGURATION EQUIPPED WITH A CANARD CONTROL AND WITH WING TRAILING-EDGE FLAP CONTROLS. M. Leroy Spearman and Cornelius Driver. March 1958. 51p. diags., photo., tabs. (NACA RM L58A20)

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WIND-TUNNEL INVESTIGATION AT A MACH NUMBER OF 2.01 OF THE AERODYNAMIC CHARACTERISTICS IN COMBINED ANGLES OF ATTACK AND SIDESLIP OF SEVERAL HYPERSONIC MISSILE CONFIGURATIONS WITH VARIOUS CANARD CONTROLS. Ross B. Robinson. March 1958. 34p. diags., photos., tabs. (NACA RM L58A21)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS OVER A MACH NUMBER RANGE OF 1.40 TO 2.78 OF A ROCKET-PROPELLED AIRPLANE CONFIGURATION HAVING A LOW 52.5° DELTA WING AND AN UNSWEPT HORIZONTAL TAIL. Alan B. Kehlet. March 1958. 26p. diags., photos., tab. (NACA RM L58A23)

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PRELIMINARY STUDY OF AIRPLANE CONFIGURATIONS HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS. William C. Sleeman, Jr. March 1958. 36p. diags. (NACA RM L58B06)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS OF A CANARD AND AN OUTBOARD-TAIL AIRPLANE MODEL AT A MACH NUMBER OF 2.01. M. Leroy Spearman and Ross B. Robinson. March 1958. 35p. diags., photos., tabs. (NACA RM L58B07)

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AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 60p. diags., tabs. (NACA RM A57K07)

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EFFECTS OF NOSE AND AFTERBODY MODIFICATIONS ON AERODYNAMIC CHARACTERISTICS OF A BODY WITH AND WITHOUT A VERTICAL TAIL AT A MACH NUMBER OF 2.01. Gerald V. Foster. April 1958. 85p. diags., photos., tabs. (NACA RM L58A10)

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AN EXPLORATORY INVESTIGATION AT MACH NUMBERS OF 2.50 AND 2.87 OF A CANARD BOMBER-TYPE CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Thomas C. Kelly, Melvin M. Carmel, and Donald T. Gregory. April 1958. 45p. diags., photos., tab. (NACA RM L58B28)

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LARGE-SCALE WIND-TUNNEL TESTS OF AN AIRPLANE MODEL WITH A 45° SWEPTBACK WING OF ASPECT RATIO 2.8 EMPLOYING HIGH-VELOCITY BLOWING OVER THE LEADING- AND TRAILING-EDGE FLAPS. David H. Hickey and Kiyoshi Aoyagi. May 1958. 65p. diags., photos., tabs. (NACA RM A58A09)

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WIND-TUNNEL INVESTIGATION AT A MACH NUMBER OF 2.01 OF FOREBODY STRAKES FOR IMPROVING DIRECTIONAL STABILITY OF SUPERSONIC AIRCRAFT. Cornelius Driver. May 1958. 32p. diags., tabs. (NACA RM L58C11)

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EFFECTS OF EXTERNAL STORE-PYLON CONFIGURATION AND POSITION ON THE AERODYNAMIC CHARACTERISTICS OF A 45° SWEPT WING-FUSELAGE COMBINATION AT A MACH NUMBER OF 1.61. Odell A. Morris. May 1958. 52p. diags. (NACA RM L58C13)

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AN EXPERIMENTAL INVESTIGATION OF THE STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A WINGLESS MISSILE CONFIGURATION AT MACH NUMBERS FROM 3.0 TO 6.3. Hermilo R. Gloria. June 1958. 29p. diags., photos., tabs. (NACA RM A58C20)

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INVESTIGATION OF AERODYNAMIC CHARACTERISTICS OF AN AIRPLANE CONFIGURATION HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS AT MACH NUMBERS OF 2.30, 2.97, AND 3.51. James D. Church, William C. Hayes, Jr., and William C. Sleeman, Jr. June 1958. 48p. diags., photos., tab. (NACA RM L58C25)

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INVESTIGATION OF THE STATIC STABILITY CHARACTERISTICS OF FIVE HYPERSONIC MISSILE CONFIGURATIONS AT MACH NUMBERS FROM 2.29 TO 4.65. Kenneth L. Turner and W. H. Appich, Jr. June 1958. 88p. diags., photos., tab. (NACA RM L58D04)

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SOME FACTORS AFFECTING THE STABILITY AND PERFORMANCE CHARACTERISTICS OF CANARD AIRCRAFT CONFIGURATIONS. M. Leroy Spearman and Cornelius Driver. June 1958. 67p. diags., photo., tabs. (NACA RM L58D16)

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(1) AERODYNAMICS

INVESTIGATION OF CONTROL EFFECTIVENESS AND STABILITY CHARACTERISTICS OF A MODEL OF A LOW-WING MISSILE WITH INTERDIGITATED TAIL SURFACES AT MACH NUMBERS OF 2.29, 2.97, AND 3.51. John G. Presnell, Jr. July 1958. 28p. diags., photos., tab. (NACA RM L58C19)

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INVESTIGATION OF THE AERODYNAMIC CHARACTERISTICS OF A MODEL OF A SUPERSONIC BOMBER CONFIGURATION WITH A SWEEPED AND AN UNSWEEPED WING AT MACH NUMBERS FROM 1.79 TO 2.67. H. Norman Silvers and Raymond L. Zedekar. July 1958. 24p. diags., photos., tab. (NACA RM L58C27)

CONFIDENTIAL

EFFECTS OF WING SWEEP, HORIZONTAL-TAIL CONFIGURATION, AND A VENTRAL FIN ON STATIC STABILITY CHARACTERISTICS OF A MODEL WITH A WING OF ASPECT RATIO 3 AT MACH NUMBERS FROM 2.29 TO 4.65. Byron M. Jaquet and Roger H. Fournier. July 1958. 88p. diags., photos., tabs. (NACA RM L58E06)

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PRELIMINARY AERODYNAMIC DATA PERTINENT TO MANNED SATELLITE REENTRY CONFIGURATIONS. Jim A. Penland and William O. Armstrong. July 1958. 16p. diags. (NACA RM L58E13a)

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LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBERS OF 1.41 AND 2.01 OF A 67° SWEEPED-WING AIRPLANE CONFIGURATION WITH CANARD CONTROL SURFACES. M. Leroy Spearman and Ross B. Robinson. July 1958. 36p. diags., photo., tabs. (NACA RM L58E20)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS AT A MACH NUMBER OF 6.8 OF TWO HYPERSONIC MISSILE CONFIGURATIONS, ONE WITH LOW-ASPECT-RATIO CRUCIFORM FINS AND TRAILING-EDGE FLAPS AND ONE WITH A FLARED AFTERBODY AND ALL-MOVABLE CONTROLS. Ross B. Robinson and Peter T. Bernot. August 1958. 19p. diags., tabs. (NACA RM L58D24)

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LONGITUDINAL AND LATERAL AERODYNAMIC CHARACTERISTICS AT COMBINED ANGLES OF ATTACK AND SIDESLIP OF A GENERALIZED MISSILE MODEL HAVING A RECTANGULAR WING AT A MACH NUMBER OF 4.08. Fred M. Smith, Edward F. Ulmann, and Robert W. Dunning. August 1958. 91p. diags., photos., tabs. (NACA RM L58E26)

CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED STABILITY AND PERFORMANCE CHARACTERISTICS OF A JET-POWERED LOW-ASPECT-RATIO VERTICAL-TAKE-OFF-AND-LANDING CONFIGURATION WITH ENGINES BURIED IN TILTABLE WINGS. William I. Scallion and Clarence D. Cone, Jr. August 1958. 58p. diags., photos. (NACA RM L58F02)

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WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED AERODYNAMIC CHARACTERISTICS OF A HYPERSONIC GLIDER CONFIGURATION. Mark W. Kelly. September 1958. 38p. diags., photo. (NACA RM A58F03)

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AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS FROM 2.5 TO 3.5 OF A CANARD BOMBER CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Melvin M. Carmel, Thomas C. Kelly, and Donald T. Gregory. September 1958. 53p. diags., photos., tab. (NACA RM L58G16)

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(Title, Confidential)

STABILITY INVESTIGATION OF A BLUNT CONE AND A BLUNT CYLINDER WITH A SQUARE BASE AT MACH NUMBERS FROM 0.64 TO 2.14. Lucille C. Coltrane. September 1958. 32p. diags., photos., tabs. (NACA RM L58G24)

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Lateral

A WIND-TUNNEL INVESTIGATION OF SEVERAL WINGLESS MISSILE CONFIGURATIONS AT SUPERSONIC SPEEDS. David E. Reese, Jr. February 1958. 51p. diags., photos., tabs. (NACA RM A57J22)

CONFIDENTIAL

EFFECT AT HIGH SUBSONIC SPEEDS OF FUSELAGE FOREBODY STRAKES ON THE STATIC STABILITY AND VERTICAL-TAIL-LOAD CHARACTERISTICS OF A COMPLETE MODEL HAVING A DELTA WING. Edward C. Polhamus and Kenneth P. Spreemann. February 1958. 32p. diags., photo. (NACA RM L57K15a)

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LOW-SPEED INVESTIGATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION IN SIDESLIP ON THE LATERAL STABILITY DERIVATIVES OF A 60° DELTA WING, A 45° SWEEPBACK WING, AND AN UNSWEPT WING. Jacob H. Lichtenstein and James L. Williams. June 1958. 19p. diagrs., photos. (NACA RM L58B26)

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TRANSONIC CHARACTERISTICS OF OUTBOARD AILERONS ON A 4-PERCENT-THICK 30° SWEEPBACK WING, INCLUDING SOME EFFECTS OF AILERON TRAILING-EDGE THICKNESS AND AERODYNAMIC BALANCE. Charles F. Whitcomb and Chris C. Critzos. July 1958. 70p. diagrs., photos. (NACA RM L58E05)

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EFFECTS OF WING SWEEP, HORIZONTAL-TAIL CONFIGURATION, AND A VENTRAL FIN ON STATIC STABILITY CHARACTERISTICS OF A MODEL WITH A WING OF ASPECT RATIO 3 AT MACH NUMBERS FROM 2.29 TO 4.65. Byron M. Jaquet and Roger H. Fournier. July 1958. 88p. diagrs., photos., tabs. (NACA RM L58E06)

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EXPERIMENTAL INVESTIGATION OF EFFECTS OF WING PLAN FORM AND DIHEDRAL ANGLE ON SIDESLIP DERIVATIVES OF SWEEPBACK-WING-BODY COMBINATIONS AT SUPERSONIC SPEEDS. William B. Boatright. July 1958. 66p. diagrs., photo., tab. (NACA RM L58E08)

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DYNAMIC LATERAL BEHAVIOR OF HIGH-PERFORMANCE AIRCRAFT. Martin T. Moul and John W. Paulson. August 1958. 10p. diagrs. (NACA RM L58E16)

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(1.8.1.1.3)

Directional

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INVESTIGATION OF CONTROL EFFECTIVENESS AND STABILITY CHARACTERISTICS OF A MODEL OF A LOW-WING MISSILE WITH INTERDIGITATED TAIL SURFACES AT MACH NUMBERS OF 2.29, 2.97, AND 3.51. John G. Presnell, Jr. July 1958. 28p. diagrs., photos., tab. (NACA RM L58C19)

CONFIDENTIAL

INVESTIGATION OF THE AERODYNAMIC CHARACTERISTICS OF A MODEL OF A SUPERSONIC BOMBER CONFIGURATION WITH A SWEEPED AND AN UNSWEEPED WING AT MACH NUMBERS FROM 1.79 TO 2.67. H. Norman Silvers and Raymond L. Zedekar. July 1958. 24p. diagrs., photos., tab. (NACA RM L58C27)

CONFIDENTIAL

EFFECTS OF WING SWEEP, HORIZONTAL-TAIL CONFIGURATION, AND A VENTRAL FIN ON STATIC STABILITY CHARACTERISTICS OF A MODEL WITH A WING OF ASPECT RATIO 3 AT MACH NUMBERS FROM 2.29 TO 4.65. Byron M. Jaquet and Roger H. Fournier. July 1958. 88p. diagrs., photos., tabs. (NACA RM L58E06)

CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF EFFECTS OF WING PLAN FORM AND DIHEDRAL ANGLE ON SIDESLIP DERIVATIVES OF SWEEPED-BACK-WING-BODY COMBINATIONS AT SUPERSONIC SPEEDS. William B. Boatright. July 1958. 66p. diagrs., photo., tab. (NACA RM L58E08)

CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED STABILITY AND PERFORMANCE CHARACTERISTICS OF A JET-POWERED LOW-ASPECT-RATIO VERTICAL-TAKE-OFF-AND-LANDING CONFIGURATION WITH ENGINES BURIED IN TILTABLE WINGS. William I. Scallion and Clarence D. Cone, Jr. August 1958. 58p. diagrs., photos. (NACA RM L58F02)

CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED AERODYNAMIC CHARACTERISTICS OF A HYPERSONIC GLIDER CONFIGURATION. Mark W. Kelly. September 1958. 38p. diagrs., photo. (NACA RM A58F03)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS FROM 2.5 TO 3.5 OF A CANARD BOMBER CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Melvin M. Carmel, Thomas C. Kelly, and Donald T. Gregory. September 1958. 53p. diagrs., photos., tab. (NACA RM L58G16)

CONFIDENTIAL

(Title, Confidential)

(1.8.1.2)

DYNAMIC

SOME EFFECTS OF REYNOLDS NUMBER ON THE STABILITY OF A SERIES OF FLARED-BODY AND BLUNTED-CONE MODELS AT MACH NUMBERS FROM 1.62 TO 6.86. Alan B. Kehlet. January 1958. 35p. diagrs., photos., tabs. (NACA RM L57J29)

CONFIDENTIAL

STABILITY OF BALLISTIC REENTRY BODIES. John D. Bird and David E. Reese. August 1958. 16p. diagrs., tab. (NACA RM L58E02a)

CONFIDENTIAL

THE STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES AT SUBSONIC SPEEDS OF A MODEL OF THE X-15 RESEARCH AIRPLANE. Armando E. Lopez and Bruce E. Tinling. September 1958. 49p. diagrs., photos., tab. (NACA RM A58F09)

CONFIDENTIAL

STATIC AND DYNAMIC-ROTARY STABILITY DERIVATIVES OF AN AIRPLANE MODEL WITH AN UNSWEEPED WING AND A HIGH HORIZONTAL TAIL AT MACH NUMBERS OF 2.5, 3.0, AND 3.5. Bedford A. Lampkin and Phillips J. Tunnell. September 1958. 36p. diagrs., photos., tab. (NACA RM A58F17)

CONFIDENTIAL

(1.8.1.2.1)

Longitudinal

A SIMULATOR INVESTIGATION OF FACTORS AFFECTING THE DESIGN AND UTILIZATION OF A STICK PUSHER FOR THE PREVENTION OF AIRPLANE PITCH-UP. Euclid C. Holleman and David L. Boslaugh. January 1958. 71p. diagrs. (NACA RM H57J30)

CONFIDENTIAL

FREE-FLIGHT TRANSONIC MODEL INVESTIGATION OF JET EFFECTS ON A FIGHTER-TYPE CONFIGURATION EMPLOYING A TAIL BOOM AND THREE HORIZONTAL-TAIL POSITIONS. Bruce G. Jackson. February 1958. 83p. diagrs., photos., tabs. (NACA RM L57J31)

CONFIDENTIAL

A FLIGHT STUDY OF LONGITUDINAL-CONTROL-SYSTEM DYNAMIC CHARACTERISTICS BY THE USE OF A VARIABLE-CONTROL-SYSTEM AIRPLANE. Norman M. McFadden, Frank A. Pauli, and Donovan R. Heinle. March 1958. 32p. diagrs., photo. (NACA RM A57L10)

CONFIDENTIAL

FLIGHT EVALUATION OF THE EFFECTS OF LEADING-EDGE-SLAT SPAN ON THE STABILITY AND CONTROL CHARACTERISTICS OF A SWEEPED-WING FIGHTER-TYPE AIRPLANE DURING ACCELERATED LONGITUDINAL MANEUVERS AT TRANSONIC SPEEDS. Gene J. Matranga and Katharine H. Armistead. March 1958. 46p. diagrs., photo., tab. (NACA RM H58A03a)

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(1) AERODYNAMICS

INVESTIGATION OF TWO BLUFF SHAPES IN AXIAL FREE FLIGHT OVER A MACH NUMBER RANGE FROM 0.35 TO 2.15. Lucille C. Coltrane. March 1958. 33p. diagrs., photos., tabs. (NACA RM L58A16) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OVER A MACH NUMBER RANGE OF 1.40 TO 2.78 OF A ROCKET-PROPELLED AIRPLANE CONFIGURATION HAVING A LOW 52.5° DELTA WING AND AN UNSWEPT HORIZONTAL TAIL. Alan B. Kehlet. March 1958. 26p. diagrs., photos., tab. (NACA RM L58A23) **CONFIDENTIAL**

AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 60p. diagrs., tabs. (NACA RM A57K07) **CONFIDENTIAL**

INVESTIGATION OF A TILTING-WING VERTICAL-TAKE-OFF-AND-LANDING JET AIRPLANE MODEL IN HOVERING AND TRANSITION FLIGHT. Robert H. Kirby and James L. Hassell, Jr. August 1958. 20p. diagrs., photo., tab., film suppl. available on request. (NACA RM L58F26) **CONFIDENTIAL**

STABILITY INVESTIGATION OF A BLUNT CONE AND A BLUNT CYLINDER WITH A SQUARE BASE AT MACH NUMBERS FROM 0.64 TO 2.14. Lucille C. Coltrane. September 1958. 32p. diagrs., photos., tabs. (NACA RM L58G24) **CONFIDENTIAL**

(1.8.1.2.2)

Lateral and Directional

EXPERIMENTAL DETERMINATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION ON THE ROLL-STABILITY DERIVATIVES FOR A 60° DELTA-WING AIRPLANE MODEL. Lewis R. Fisher. February 1958. 49p. diagrs., photos., tabs. (NACA RM L57L17) **CONFIDENTIAL**

DYNAMIC DIRECTIONAL STABILITY DERIVATIVES FOR A 45° SWEEP-WING-VERTICAL-TAIL AIRPLANE MODEL AT TRANSONIC SPEEDS AND ANGLES OF ATTACK, WITH A DESCRIPTION OF THE MECHANISM AND INSTRUMENTATION EMPLOYED. Albert L. Braslow, Harleth G. Wiley, and Cullen Q. Lee. April 1958. 46p. diagrs., photos. (NACA RM L58A28) **CONFIDENTIAL**

LOW-SPEED INVESTIGATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION IN SIDESLIP ON THE LATERAL STABILITY DERIVATIVES OF A 60° DELTA WING, A 45° SWEEPBACK WING, AND AN UNSWEPT WING. Jacob H. Lichtenstein and James L. Williams. June 1958. 19p. diagrs., photos. (NACA RM L58B26) **CONFIDENTIAL**

DYNAMIC LATERAL BEHAVIOR OF HIGH-PERFORMANCE AIRCRAFT. Martin T. Moul and John W. Paulson. August 1958. 10p. diagrs. (NACA RM L58E16) **CONFIDENTIAL**

INVESTIGATION OF A TILTING-WING VERTICAL-TAKE-OFF-AND-LANDING JET AIRPLANE MODEL IN HOVERING AND TRANSITION FLIGHT. Robert H. Kirby and James L. Hassell, Jr. August 1958. 20p. diagrs., photo., tab., film suppl. available on request. (NACA RM L58F26) **CONFIDENTIAL**

(1.8.1.2.3)

Damping Derivatives

EXPERIMENTAL DETERMINATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION ON THE ROLL-STABILITY DERIVATIVES FOR A 60° DELTA-WING AIRPLANE MODEL. Lewis R. Fisher. February 1958. 49p. diagrs., photos., tabs. (NACA RM L57L17) **CONFIDENTIAL**

STUDY OF EXIT PHASE OF FLIGHT OF A VERY HIGH ALTITUDE HYPERSONIC AIRPLANE BY MEANS OF A PILOT-CONTROLLED ANALOG COMPUTER. Windsor L. Sherman, Stanley Faber, and James B. Whitten. APPENDIX: THE ANALOG SIMULATOR PROGRAMING. Robert E. Andrews. March 1958. 53p. diagrs., photo., tabs. (NACA RM L57K21) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OVER A MACH NUMBER RANGE OF 1.40 TO 2.78 OF A ROCKET-PROPELLED AIRPLANE CONFIGURATION HAVING A LOW 52.5° DELTA WING AND AN UNSWEPT HORIZONTAL TAIL. Alan B. Kehlet. March 1958. 26p. diagrs., photos., tab. (NACA RM L58A23) **CONFIDENTIAL**

DYNAMIC DIRECTIONAL STABILITY DERIVATIVES FOR A 45° SWEEP-WING-VERTICAL-TAIL AIRPLANE MODEL AT TRANSONIC SPEEDS AND ANGLES OF ATTACK, WITH A DESCRIPTION OF THE MECHANISM AND INSTRUMENTATION EMPLOYED. Albert L. Braslow, Harleth G. Wiley, and Cullen Q. Lee. April 1958. 46p. diagrs., photos. (NACA RM L58A28) **CONFIDENTIAL**

EFFECT OF CONTROL TRAILING-EDGE THICKNESS OR ASPECT RATIO ON THE OSCILLATING HINGE-MOMENT AND FLUTTER CHARACTERISTICS OF A FLAP-TYPE CONTROL AT TRANSONIC SPEEDS. William C. Moseley, Jr., and Robert F. Thompson. April 1958. 43p. diagrs., photo., tabs. (NACA RM L58B25) **CONFIDENTIAL**

SOME EFFECTS OF FLOW SPOILERS AND OF AERODYNAMIC BALANCE ON THE OSCILLATING HINGE MOMENTS FOR A SWEEP FIN-RUDDER COMBINATION IN A TRANSONIC WIND TUNNEL. Robert W. Herr, Frederick W. Gibson, and Robert S. Osborne. May 1958. 31p. diagrs., photos. (NACA RM L58C28) **CONFIDENTIAL**

LOW-SPEED INVESTIGATION OF THE EFFECTS OF FREQUENCY AND AMPLITUDE OF OSCILLATION IN SIDESLIP ON THE LATERAL STABILITY DERIVATIVES OF A 60° DELTA WING, A 45° SWEEPBACK WING, AND AN UNSWEPT WING. Jacob H. Lichtenstein and James L. Williams. June 1958. 19p. diagrs., photos. (NACA RM L58B26) **CONFIDENTIAL**

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(1) AERODYNAMICS

ROCKET-MODEL INVESTIGATION TO DETERMINE THE LIFT AND PITCHING EFFECTIVENESS OF SMALL PULSE ROCKETS EXHAUSTED FROM THE FUSELAGE OVER THE SURFACE OF AN ADJACENT WING AT MACH NUMBERS FROM 0.9 TO 1.8. C. William Martz. September 1958. 22p. diags., photos. (NACA RM L58G29)

CONFIDENTIAL

(1.8.2) CONTROL

STUDY OF EXIT PHASE OF FLIGHT OF A VERY HIGH ALTITUDE HYPERSONIC AIRPLANE BY MEANS OF A PILOT-CONTROLLED ANALOG COMPUTER. Windsor L. Sherman, Stanley Faber, and James B. Whitten. APPENDIX: THE ANALOG SIMULATOR PROGRAMING. Robert E. Andrews. March 1958. 53p. diags., photo., tabs. (NACA RM L57K21)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF HYPERSONIC GLIDERS. Robert W. Rainey. July 1958. 16p. diags., tab. (NACA RM L58E12a)

CONFIDENTIAL

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS 2.36 AND 2.87 OF AN AIRPLANE CONFIGURATION HAVING A CAMBERED ARROW WING WITH A 75° SWEEP LEADING EDGE. Joseph M. Hallissy, Jr., and Dennis F. Hasson. August 1958. 63p. diags., photos., tabs. (NACA RM L58E21)

CONFIDENTIAL

WIND-TUNNEL INVESTIGATION OF THE EFFECT OF SWEEP AND TAPER RATIO ON EFFECTIVENESS OF SPOILER-SLOT-DEFLECTOR CONTROLS ON ASPECT-RATIO-4 WINGS AT TRANSONIC SPEEDS. Alexander D. Hammond and Linwood W. McKinney. August 1958. 69p. diags., tabs. (NACA RM L58E29)

CONFIDENTIAL

INVESTIGATION OF WINGLESS MISSILE CONFIGURATIONS WITH FOLDING CONTROLS AND LOW-ASPECT-RATIO STABILIZING SURFACES. Frank A. Lazzeroni. September 1958. 33p. diags., photo. (NACA RM A58F30)

CONFIDENTIAL

SIMULATOR STUDIES OF JET REACTION CONTROLS FOR USE AT HIGH ALTITUDE. Wendell H. Stillwell and Hubert M. Drake. September 1958. 40p. diags., photos. (NACA RM H58G18a)

CONFIDENTIAL

(1.8.2.1) LONGITUDINAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD. John W. Boyd and Victor L. Peterson. January 1958. 32p. diags., photo., tabs. (NACA RM A57J15)

CONFIDENTIAL

A SIMULATOR INVESTIGATION OF FACTORS AFFECTING THE DESIGN AND UTILIZATION OF A STICK PUSHER FOR THE PREVENTION OF AIRPLANE PITCH-UP. Euclid C. Holleman and David L. Boslaugh. January 1958. 71p. diags. (NACA RM H57J30)

CONFIDENTIAL

LONGITUDINAL STABILITY INVESTIGATION OF A VERTICAL-TAKE-OFF-AND-LANDING AIRPLANE CONFIGURATION WITH SIMULATED JET INTAKE AND EXHAUST AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. January 1958. 80p. diags., photos., tab. (NACA RM L57K05)

CONFIDENTIAL

A WIND-TUNNEL INVESTIGATION OF SEVERAL WINGLESS MISSILE CONFIGURATIONS AT SUPERSONIC SPEEDS. David E. Reese, Jr. February 1958. 51p. diags., photos., tabs. (NACA RM A57J22)

CONFIDENTIAL

SUBSONIC AERODYNAMIC CHARACTERISTICS UP TO EXTREME ANGLES OF ATTACK OF AN AIRPLANE MODEL HAVING AN UNSWEPT WING AND A HIGH HORIZONTAL TAIL. Bruce E. Tinling. February 1958. 25p. diags., photos., tab. (NACA RM A57K05)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - TRIANGULAR WING AND CANARD ON AN EXTENDED BODY. John W. Boyd and Victor L. Peterson. February 1958. 62p. diags., tabs. (NACA RM A57K14)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF A TRIANGULAR WING AND UNSWEPT CANARD. Victor L. Peterson and Gene P. Menees. February 1958. 31p. diags., tabs. (NACA RM A57K26)

CONFIDENTIAL

STATIC STABILITY AND CONTROL OF CANARD CONFIGURATIONS AT MACH NUMBERS FROM 0.70 TO 2.22 - LONGITUDINAL CHARACTERISTICS OF AN UNSWEPT WING AND CANARD. Victor L. Peterson and John W. Boyd. February 1958. 29p. diags., tabs. (NACA RM A57K27)

CONFIDENTIAL

A FLIGHT STUDY OF LONGITUDINAL-CONTROL-SYSTEM DYNAMIC CHARACTERISTICS BY THE USE OF A VARIABLE-CONTROL-SYSTEM AIRPLANE. Norman M. McFadden, Frank A. Pauli, and Donovan R. Heinle. March 1958. 32p. diags., photo. (NACA RM A57L10)

CONFIDENTIAL

FLIGHT EVALUATION OF THE EFFECTS OF LEADING-EDGE-SLAT SPAN ON THE STABILITY AND CONTROL CHARACTERISTICS OF A SWEEP-WING FIGHTER-TYPE AIRPLANE DURING ACCELERATED LONGITUDINAL MANEUVERS AT TRANSONIC SPEEDS. Gene J. Matranga and Katharine H. Armistead. March 1958. 46p. diags., photo., tab. (NACA RM H58A03a)

CONFIDENTIAL

EFFECTS OF CANARD SURFACE SIZE ON STABILITY AND CONTROL CHARACTERISTICS OF TWO CANARD AIRPLANE CONFIGURATIONS AT MACH NUMBERS OF 1.41 AND 2.01. M. Leroy Spearman and Cornelius Driver. March 1958. 61p. diags., photo., tabs. (NACA RM L57L17a)

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(1) AERODYNAMICS

LONGITUDINAL AND LATERAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBER 2.01 OF A 60° DELTA-WING AIRPLANE CONFIGURATION EQUIPPED WITH A CANARD CONTROL AND WITH WING TRAILING-EDGE FLAP CONTROLS. M. Leroy Spearman and Cornelius Driver. March 1958. 51p. diags., photo., tabs. (NACA RM L58A20) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION AT A MACH NUMBER OF 2.01 OF THE AERODYNAMIC CHARACTERISTICS IN COMBINED ANGLES OF ATTACK AND SIDESLIP OF SEVERAL HYPERSONIC MISSILE CONFIGURATIONS WITH VARIOUS CANARD CONTROLS. Ross B. Robinson. March 1958. 34p. diags., photos., tabs. (NACA RM L58A21) **CONFIDENTIAL**

PRELIMINARY STUDY OF AIRPLANE CONFIGURATIONS HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS. William C. Sleeman, Jr. March 1958. 36p. diags. (NACA RM L58B06) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF A CANARD AND AN OUTBOARD-TAIL AIRPLANE MODEL AT A MACH NUMBER OF 2.01. M. Leroy Spearman and Ross B. Robinson. March 1958. 35p. diags., photos., tabs. (NACA RM L58B07) **CONFIDENTIAL**

AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 60p. diags., tabs. (NACA RM A57K07) **CONFIDENTIAL**

GROUND SIMULATOR STUDIES OF A SMALL SIDE-LOCATED CONTROLLER IN A POWER CONTROL SYSTEM. Arthur Assadourian. April 1958. 27p. diags., photos., tab. (NACA RM L58B14) **CONFIDENTIAL**

AN EXPLORATORY INVESTIGATION AT MACH NUMBERS OF 2.50 AND 2.87 OF A CANARD BOMBER-TYPE CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Thomas C. Kelly, Melvin M. Carmel, and Donald T. Gregory. April 1958. 45p. diags., photos., tab. (NACA RM L58B28) **CONFIDENTIAL**

STATIC STABILITY AND CONTROL CHARACTERISTICS OF A TRIANGULAR WING AND CANARD CONFIGURATION AT MACH NUMBERS FROM 2.58 TO 3.53. C. Ernest Hedstrom, James R. Blackaby, and Victor L. Peterson. May 1958. 62p. diags., photos., tabs. (NACA RM A58C05) **CONFIDENTIAL**

AN EXPERIMENTAL INVESTIGATION OF THE STATIC LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS OF A WINGLESS MISSILE CONFIGURATION AT MACH NUMBERS FROM 3.0 TO 6.3. Hermilo R. Gloria. June 1958. 29p. diags., photos., tabs. (NACA RM A58C20) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matranga. June 1958. 39p. diags., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

INVESTIGATION OF AERODYNAMIC CHARACTERISTICS OF AN AIRPLANE CONFIGURATION HAVING TAIL SURFACES OUTBOARD OF THE WING TIPS AT MACH NUMBERS OF 2.30, 2.97, AND 3.51. James D. Church, William C. Hayes, Jr., and William C. Sleeman, Jr. June 1958. 48p. diags., photos., tab. (NACA RM L58C25) **CONFIDENTIAL**

SOME FACTORS AFFECTING THE STABILITY AND PERFORMANCE CHARACTERISTICS OF CANARD AIRCRAFT CONFIGURATIONS. M. Leroy Spearman and Cornelius Driver. June 1958. 67p. diags., photo., tabs. (NACA RM L58D16) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF SEVERAL JET-SPOILER CONTROLS ON A 45° SWEEPBACK WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. June 1958. 93p. diags., tab. (NACA RM L58D18) **CONFIDENTIAL**

MANEUVER PERFORMANCE OF INTERCEPTOR MISSILES. David G. Stone. June 1958. 12p. diags. (NACA RM L58E02) **CONFIDENTIAL**

EFFECTS OF CANARDS ON AIRPLANE PERFORMANCE AND STABILITY. Charles F. Hall and John W. Boyd. July 1958. 24p. diags. (NACA RM A58D24) **CONFIDENTIAL**

INVESTIGATION OF CONTROL EFFECTIVENESS AND STABILITY CHARACTERISTICS OF A MODEL OF A LOW-WING MISSILE WITH INTERDIGITATED TAIL SURFACES AT MACH NUMBERS OF 2.29, 2.97, AND 3.51. John G. Presnell, Jr. July 1958. 28p. diags., photos., tab. (NACA RM L58C19) **CONFIDENTIAL**

LONGITUDINAL STABILITY AND CONTROL CHARACTERISTICS AT MACH NUMBERS OF 1.41 AND 2.01 OF A 67° SWEEP-WING AIRPLANE CONFIGURATION WITH CANARD CONTROL SURFACES. M. Leroy Spearman and Ross B. Robinson. July 1958. 36p. diags., photo., tabs. (NACA RM L58E20) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT A MACH NUMBER OF 6.8 OF TWO HYPERSONIC MISSILE CONFIGURATIONS, ONE WITH LOW-ASPECT-RATIO CRUCIFORM FINS AND TRAILING-EDGE FLAPS AND ONE WITH A FLARED AFTERBODY AND ALL-MOVABLE CONTROLS. Ross B. Robinson and Peter T. Bernot. August 1958. 19p. diags., tabs. (NACA RM L58D24) **CONFIDENTIAL**

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(1) AERODYNAMICS

FLIGHT, ANALOG-SIMULATOR, AND ANALYTICAL STUDIES OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR WHICH USES A BANK-ANGLE-ERROR COMPUTER FOR LATERAL COMMANDS. Donald C. Cheatham and Roy F. Brissenden. August 1958. 53p. diags., photo., tabs. (NACA RM L58E26a) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION OF THE LOW-SPEED STABILITY AND PERFORMANCE CHARACTERISTICS OF A JET-POWERED LOW-ASPECT-RATIO VERTICAL-TAKE-OFF-AND-LANDING CONFIGURATION WITH ENGINES BURIED IN TILTABLE WINGS. William I. Scallion and Clarence D. Cone, Jr. August 1958. 58p. diags., photos. (NACA RM L58F02) **CONFIDENTIAL**

INVESTIGATION OF A TILTING-WING VERTICAL-TAKE-OFF-AND-LANDING JET AIRPLANE MODEL IN HOVERING AND TRANSITION FLIGHT. Robert H. Kirby and James L. Hassell, Jr. August 1958. 20p. diags., photo., tab., film suppl. available on request. (NACA RM L58F26) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT MACH NUMBERS FROM 2.5 TO 3.5 OF A CANARD BOMBER CONFIGURATION DESIGNED FOR SUPERSONIC CRUISE FLIGHT. Melvin M. Carmel, Thomas C. Kelly, and Donald T. Gregory. September 1958. 53p. diags., photos., tab. (NACA RM L58G16) **CONFIDENTIAL**
(Title, Confidential)

ROCKET-MODEL INVESTIGATION TO DETERMINE THE LIFT AND PITCHING EFFECTIVENESS OF SMALL PULSE ROCKETS EXHAUSTED FROM THE FUSELAGE OVER THE SURFACE OF AN ADJACENT WING AT MACH NUMBERS FROM 0.9 TO 1.8. C. William Martz. September 1958. 22p. diags., photos. (NACA RM L58G29) **CONFIDENTIAL**

(1.8.2.2)
LATERAL

TRANSONIC LATERAL AND LONGITUDINAL AERODYNAMIC CHARACTERISTICS OF A LATERAL-CONTROL SYSTEM EMPLOYING ROTATABLE AIRFOILS MOUNTED VERTICALLY AT THE WING TIPS OF AN UNSWEPT WING-FUSELAGE-TAIL COMBINATION. John A. Axelson. January 1958. 43p. diags., photos. (NACA RM A57J16) **CONFIDENTIAL**

FREE-FLIGHT ROLL PERFORMANCE OF A STEADY-FLOW JET-SPOILER CONTROL ON AN 80° DELTA-WING MISSILE BETWEEN MACH NUMBERS OF 0.6 AND 1.8. Eugene D. Schult. January 1958. 35p. diags., photos. (NACA RM L57J28) **CONFIDENTIAL**

INVESTIGATION OF THE STATIC LATERAL STABILITY AND AILERON CHARACTERISTICS OF A 0.067-SCALE MODEL OF THE BELL X-2 AIRPLANE AT MACH NUMBERS OF 2.29, 2.78, 3.22, AND 3.71. Roger H. Fournier and H. Norman Silvers. March 1958. 50p. diags., photos., tab. (NACA RM L57J28a) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matranga. June 1958. 39p. diags., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-AIRPLANE MODEL AND AERODYNAMIC LOADS ON ADJACENT STORES AND MISSILES AT MACH NUMBERS OF 1.57, 1.87, 2.16, AND 2.53. Waldo I. Oehman and Kenneth L. Turner. June 1958. 107p. diags., photos., tabs. (NACA RM L58C17) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF SEVERAL JET-SPOILER CONTROLS ON A 45° SWEEPBACK WING AT MACH NUMBERS OF 1.81 AND 2.01. Douglas R. Lord. June 1958. 93p. diags., tab. (NACA RM L58D18) **CONFIDENTIAL**

TRANSONIC CHARACTERISTICS OF OUTBOARD AILERONS ON A 4-PERCENT-THICK 30° SWEEPBACK WING, INCLUDING SOME EFFECTS OF AILERON TRAILING-EDGE THICKNESS AND AERODYNAMIC BALANCE. Charles F. Whitcomb and Chris C. Critzos. July 1958. 70p. diags., photos. (NACA RM L58E05) **CONFIDENTIAL**

A WIND-TUNNEL INVESTIGATION OF THE WING LOADS DUE TO DEFLECTED INBOARD AILERONS ON A 45° SWEEPBACK WING AT TRANSONIC SPEEDS. Atwood R. Heath, Jr., and Ann W. Igoe. July 1958. 101p. diags., photos., tabs. (NACA RM L58E12) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS AT A MACH NUMBER OF 6.8 OF TWO HYPERSONIC MISSILE CONFIGURATIONS, ONE WITH LOW-ASPECT-RATIO CRUCIFORM FINS AND TRAILING-EDGE FLAPS AND ONE WITH A FLARED AFTERBODY AND ALL-MOVABLE CONTROLS. Ross B. Robinson and Peter T. Bernot. August 1958. 19p. diags., tabs. (NACA RM L58D24) **CONFIDENTIAL**

DYNAMIC LATERAL BEHAVIOR OF HIGH-PERFORMANCE AIRCRAFT. Martin T. Moul and John W. Paulson. August 1958. 10p. diags. (NACA RM L58E16) **CONFIDENTIAL**

FLIGHT, ANALOG-SIMULATOR, AND ANALYTICAL STUDIES OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR WHICH USES A BANK-ANGLE-ERROR COMPUTER FOR LATERAL COMMANDS. Donald C. Cheatham and Roy F. Brissenden. August 1958. 53p. diags., photo., tabs. (NACA RM L58E26a) **CONFIDENTIAL**

ANALYSIS OF EFFECTS OF INTERCEPTOR ROLL PERFORMANCE AND MANEUVERABILITY ON SUCCESS OF COLLISION-COURSE ATTACKS. William H. Phillips. August 1958. 37p. diags., tabs. (NACA RM L58E27) **CONFIDENTIAL**

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(1) AERODYNAMICS

INVESTIGATION OF A TILTING-WING VERTICAL-TAKE-OFF-AND-LANDING JET AIRPLANE MODEL IN HOVERING AND TRANSITION FLIGHT. Robert H. Kirby and James L. Hassell, Jr. August 1958. 20p. diagrs., photo., tab., film suppl. available on request. (NACA RM L58F26) **CONFIDENTIAL**

(1.8.2.3)
DIRECTIONAL

INVESTIGATION OF THE STATIC LATERAL STABILITY AND ALERON CHARACTERISTICS OF A 0.067-SCALE MODEL OF THE BELL X-2 AIRPLANE AT MACH NUMBERS OF 2.29, 2.78, 3.22, AND 3.71. Roger H. Fournier and H. Norman Silvers. March 1958. 50p. diagrs., photos., tab. (NACA RM L57J28a) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matranga. June 1958. 39p. diagrs., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

INVESTIGATION OF A TILTING-WING VERTICAL-TAKE-OFF-AND-LANDING JET AIRPLANE MODEL IN HOVERING AND TRANSITION FLIGHT. Robert H. Kirby and James L. Hassell, Jr. August 1958. 20p. diagrs., photo., tab., film suppl. available on request. (NACA RM L58F26) **CONFIDENTIAL**

(1.8.2.4)
AIR BRAKES

EFFECT OF TARGET-TYPE THRUST REVERSER ON TRANSONIC AERODYNAMIC CHARACTERISTICS OF A SINGLE-ENGINE FIGHTER MODEL. John M. Swihart. January 1958. 42p. diagrs., photos., tab. (NACA RM L57J16) **CONFIDENTIAL**

AN INVESTIGATION OF THE DRAG CHARACTERISTICS OF SPEED BRAKES FOR MACH NUMBERS FROM 0.20 TO 1.30. Allen R. Vick. January 1958. 35p. diagrs., photos., tab. (NACA RM L57J23a) **CONFIDENTIAL**

(1.8.2.5)
HINGE MOMENTS

EFFECT OF CONTROL TRAILING-EDGE THICKNESS OR ASPECT RATIO ON THE OSCILLATING HINGE-MOMENT AND FLUTTER CHARACTERISTICS OF A FLAP-TYPE CONTROL AT TRANSONIC SPEEDS. William C. Moseley, Jr., and Robert F. Thompson. April 1958. 43p. diagrs., photo., tabs. (NACA RM L58B25) **CONFIDENTIAL**

SOME EFFECTS OF FLOW SPOILERS AND OF AERODYNAMIC BALANCE ON THE OSCILLATING HINGE MOMENTS FOR A SWEPT FIN-RUDDER COMBINATION IN A TRANSONIC WIND TUNNEL. Robert W. Herr, Frederick W. Gibson, and Robert S. Osborne. May 1958. 31p. diagrs., photos. (NACA RM L58C28) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF A 45° SWEPT-WING FIGHTER-AIRPLANE MODEL AND AERODYNAMIC LOADS ON ADJACENT STORES AND MISSILES AT MACH NUMBERS OF 1.57, 1.87, 2.16, AND 2.53. Waldo I. Oehman and Kenneth L. Turner. June 1958. 107p. diagrs., photos., tabs. (NACA RM L58C17) **CONFIDENTIAL**

TRANSONIC CHARACTERISTICS OF OUTBOARD ALERONS ON A 4-PERCENT-THICK 30° SWEPT-BACK WING, INCLUDING SOME EFFECTS OF ALERON TRAILING-EDGE THICKNESS AND AERODYNAMIC BALANCE. Charles F. Whitcomb and Chris C. Critzos. July 1958. 70p. diagrs., photos. (NACA RM L58E05) **CONFIDENTIAL**

(1.8.2.6)
AUTOMATIC

A SIMULATOR INVESTIGATION OF FACTORS AFFECTING THE DESIGN AND UTILIZATION OF A STICK PUSHER FOR THE PREVENTION OF AIRPLANE PITCH-UP. Euclid C. Holleman and David L. Boslaugh. January 1958. 71p. diagrs. (NACA RM H57J30) **CONFIDENTIAL**

A FLIGHT STUDY OF LONGITUDINAL-CONTROL-SYSTEM DYNAMIC CHARACTERISTICS BY THE USE OF A VARIABLE-CONTROL-SYSTEM AIRPLANE. Norman M. McFadden, Frank A. Pauli, and Donovan R. Heinle. March 1958. 32p. diagrs., photo. (NACA RM A57L10) **CONFIDENTIAL**

THE EFFECTS OF A MODIFIED ROLL-COMMAND SYSTEM ON THE FLIGHT-PATH STABILITY AND TRACKING ACCURACY OF AN AUTOMATIC INTERCEPTOR. William C. Triplett. March 1958. 19p. diagrs., photo. (NACA RM A57L11a) **CONFIDENTIAL**

AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 60p. diagrs., tabs. (NACA RM A57K07) **CONFIDENTIAL**

SIMULATOR INVESTIGATION OF COMMAND REACTION CONTROLS. Euclid C. Holleman and Wendell H. Stillwell. July 1958. 12p. diagrs., tab. (NACA RM H58D22) **CONFIDENTIAL**

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~~CONFIDENTIAL~~**(1) AERODYNAMICS**

FLIGHT, ANALOG-SIMULATOR, AND ANALYTICAL STUDIES OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR WHICH USES A BANK-ANGLE-ERROR COMPUTER FOR LATERAL COMMANDS. Donald C. Cheatham and Roy F. Brissenden. August 1958. 53p. diagrs., photo., tabs. (NACA RM L58E26a) **CONFIDENTIAL**

**(1.8.2.7)
JET REACTION**

PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diagrs., photos., tabs. (NACA RM L58D09) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OF SEVERAL JET-SPOILER CONTROLS ON A 45° SWEEPBACK WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord. June 1958. 93p. diagrs., tabs. (NACA RM L58D18) **CONFIDENTIAL**

SIMULATOR INVESTIGATION OF COMMAND REACTION CONTROLS. Euclid C. Holleman and Wendell H. Stillwell. July 1958. 12p. diagrs., tab. (NACA RM H58D22) **CONFIDENTIAL**

SIMULATION STUDY OF A HIGH-PERFORMANCE AIRCRAFT INCLUDING THE EFFECT ON PILOT CONTROL OF LARGE ACCELERATIONS DURING EXIT AND REENTRY FLIGHT. C. H. Woodling, James B. Whitten, Robert A. Champine, and Robert E. Andrews. July 1958. 10p. diagrs., photos., film suppl. available on request. (NACA RM L58E08a) **CONFIDENTIAL**

SIMULATOR STUDIES OF JET REACTION CONTROLS FOR USE AT HIGH ALTITUDE. Wendell H. Stillwell and Hubert M. Drake. September 1958. 40p. diagrs., photos. (NACA RM H58G18a) **CONFIDENTIAL**

**(1.8.4)
STALLING**

LARGE-SCALE WIND-TUNNEL TESTS OF AN AIRPLANE MODEL WITH A 45° SWEEPBACK WING OF ASPECT RATIO 2.8 EMPLOYING HIGH-VELOCITY BLOWING OVER THE LEADING- AND TRAILING-EDGE FLAPS. David H. Hickey and Kiyoshi Aoyagi. May 1958. 65p. diagrs., photos., tabs. (NACA RM A58A09) **CONFIDENTIAL**

**(1.8.5)
FLYING QUALITIES**

A FLIGHT STUDY OF LONGITUDINAL-CONTROL-SYSTEM DYNAMIC CHARACTERISTICS BY THE USE OF A VARIABLE-CONTROL-SYSTEM AIRPLANE. Norman M. McFadden, Frank A. Pauli, and Donovan R. Heinle. March 1958. 32p. diagrs., photo. (NACA RM A57L10) **CONFIDENTIAL**

FLIGHT EVALUATION OF THE EFFECTS OF LEADING-EDGE-SLAT SPAN ON THE STABILITY AND CONTROL CHARACTERISTICS OF A SWEEP-WING FIGHTER-TYPE AIRPLANE DURING ACCELERATED LONGITUDINAL MANEUVERS AT TRANSONIC SPEEDS. Gene J. Matranga and Katharine H. Armistead. March 1958. 46p. diagrs., photo., tab. (NACA RM H58A03a) **CONFIDENTIAL**

STUDY OF EXIT PHASE OF FLIGHT OF A VERY HIGH ALTITUDE HYPERSONIC AIRPLANE BY MEANS OF A PILOT-CONTROLLED ANALOG COMPUTER. Windsor L. Sherman, Stanley Faber, and James B. Whitten. APPENDIX: THE ANALOG SIMULATOR PROGRAMING. Robert E. Andrews. March 1958. 53p. diagrs., photo., tabs. (NACA RM L57K21) **CONFIDENTIAL**

A COMPARISON OF FLIGHT-MEASURED CARRIER-APPROACH SPEEDS WITH VALUES PREDICTED BY SEVERAL DIFFERENT CRITERIA FOR 41 FIGHTER-TYPE AIRPLANE CONFIGURATIONS. Maurice D. White, Bernard A. Schlaff, and Fred J. Drinkwater III. May 1958. 127p. diagrs., tabs. (NACA RM A57L11) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matranga. June 1958. 39p. diagrs., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

ANALYSIS OF EFFECTS OF INTERCEPTOR ROLL PERFORMANCE AND MANEUVERABILITY ON SUCCESS OF COLLISION-COURSE ATTACKS. William H. Phillips. August 1958. 37p. diagrs., tabs. (NACA RM L58E27) **CONFIDENTIAL**

**(1.8.6)
MASS AND GYROSCOPIC
PROBLEMS**

INVESTIGATION OF TWO BLUFF SHAPES IN AXIAL FREE FLIGHT OVER A MACH NUMBER RANGE FROM 0.35 TO 2.15. Lucille C. Coltrane. March 1958. 33p. diagrs., photos., tabs. (NACA RM L58A16) **CONFIDENTIAL**

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(1) AERODYNAMICS

STABILITY INVESTIGATION OF A BLUNT CONE AND A BLUNT CYLINDER WITH A SQUARE BASE AT MACH NUMBERS FROM 0.64 TO 2.14. Lucille C. Coltrane. September 1958. 32p. diagrs., photos., tabs. (NACA RM L58G24) CONFIDENTIAL

(1.8.8)
AUTOMATIC STABILIZATION

STUDY OF EXIT PHASE OF FLIGHT OF A VERY HIGH ALTITUDE HYPERSONIC AIRPLANE BY MEANS OF A PILOT-CONTROLLED ANALOG COMPUTER. Windsor L. Sherman, Stanley Faber, and James B. Whitten. APPENDIX: THE ANALOG SIMULATOR PROGRAMING. Robert E. Andrews. March 1958. 53p. diagrs., photo., tabs. (NACA RM L57K21) CONFIDENTIAL

SIMULATION STUDY OF A HIGH-PERFORMANCE AIRCRAFT INCLUDING THE EFFECT ON PILOT CONTROL OF LARGE ACCELERATIONS DURING EXIT AND REENTRY FLIGHT. C. H. Woodling, James B. Whitten, Robert A. Champine, and Robert E. Andrews. July 1958. 10p. diagrs., photos., film suppl. available on request. (NACA RM L58E08a) CONFIDENTIAL

DYNAMIC LATERAL BEHAVIOR OF HIGH-PERFORMANCE AIRCRAFT. Martin T. Moul and John W. Paulson. August 1958. 10p. diagrs. (NACA RM L58E16) CONFIDENTIAL

FLIGHT, ANALOG-SIMULATOR, AND ANALYTICAL STUDIES OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR WHICH USES A BANK-ANGLE-ERROR COMPUTER FOR LATERAL COMMANDS. Donald C. Cheatham and Roy F. Brissenden. August 1958. 53p. diagrs., photo., tabs. (NACA RM L58E26a) CONFIDENTIAL

(1.8.9)
TRACKING

TRACKING PERFORMANCE OF A SWEEP-WING FIGHTER WITH A DIRECTOR-TYPE RADAR FIRE-CONTROL SYSTEM AND SCOPE PRESENTATION. Howard L. Turner, George A. Rathert, Jr., and Donovan R. Heinle. January 1958. 24p. diagrs., photo. (NACA RM A57J01) CONFIDENTIAL

GROUND SIMULATOR STUDIES OF A SMALL SIDE-LOCATED CONTROLLER IN A POWER CONTROL SYSTEM. Arthur Assadourian. April 1958. 27p. diagrs., photos., tab. (NACA RM L58B14) CONFIDENTIAL

FLIGHT, ANALOG-SIMULATOR, AND ANALYTICAL STUDIES OF AN AUTOMATICALLY CONTROLLED INTERCEPTOR WHICH USES A BANK-ANGLE-ERROR COMPUTER FOR LATERAL COMMANDS. Donald C. Cheatham and Roy F. Brissenden. August 1958. 53p. diagrs., photo., tabs. (NACA RM L58E26a) CONFIDENTIAL

A FLIGHT STUDY OF THE EFFECTS OF NOISE FILTERING IN THE ATTACK DISPLAY ON THE PILOT'S TRACKING PERFORMANCE. Howard L. Turner and Donovan R. Heinle. September 1958. 18p. diagrs., tabs. (NACA RM A58E21) CONFIDENTIAL

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(1) AERODYNAMICS

(1.9)

Aeroelasticity

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE ALL-MOVABLE HORIZONTAL TAIL OF A FIGHTER AIRPLANE. Thomas B. Sellers. January 1958. 30p. diagrs., photos., tabs. (NACA RM L57K13) **CONFIDENTIAL**

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE SWEEPBACK WING OF A FIGHTER AIRPLANE. Samuel L. Smith III and Robert W. Boswinkle, Jr. April 1958. 26p. diagrs., photos., tabs. (NACA RM L58A15) **CONFIDENTIAL**

INVESTIGATION OF FLUTTER CHARACTERISTICS OF THREE LOW-ASPECT-RATIO ALL-MOVABLE HALF-SPAN CONTROL SURFACES AT MACH NUMBERS FROM 1.49 TO 2.87. Homer G. Morgan, Irving E. Figge, and John G. Presnell, Jr. May 1958. 35p. diagrs., photos., tabs. (NACA RM L58B20) **CONFIDENTIAL**

SOME EFFECTS OF MASS RATIO ON THE TRANSONIC FLUTTER CHARACTERISTICS OF UNTAPERED 45° SWEEPBACK WINGS OF ASPECT RATIOS 2 AND 3.5. H. Neale Kelly. June 1958. 19p. diagrs., tabs. (NACA RM L58D17)

CONFIDENTIAL

EXPERIMENTAL AND ANALYTICAL INVESTIGATION OF THE TRANSONIC AND SUPERSONIC DIVERGENCE CHARACTERISTICS OF A DELTA-PLAN-FORM ALL-MOVABLE CONTROL. A. Gerald Rainey, Perry W. Hanson, and Dennis J. Martin. August 1958. 38p. diagrs., photos., tabs. (NACA RM L58E07) **CONFIDENTIAL**

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(2)
HYDRODYNAMICS

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(2) HYDRODYNAMICS

(2.2)

General Arrangement Studies

PRELIMINARY INVESTIGATION OF LAND-WATER
OPERATION WITH A 1/10-SCALE MODEL OF A
JET AIRPLANE EQUIPPED WITH HYDRO-SKIS.
William C. Thompson. March 1958. 25p. diagrs.,
photos., tabs. (NACA RM L58A22) CONFIDENTIAL

HYDRODYNAMIC CHARACTERISTICS OF A MODEL
OF A PROPOSED SIX-ENGINE HULL-TYPE SEA-
PLANE DESIGNED FOR SUPERSONIC FLIGHT.
Claude W. Coffee, Jr. July 1958. 32p. diagrs.,
photos., tab. (NACA RM L58E13) CONFIDENTIAL

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~~CONFIDENTIAL~~(2) HYDRODYNAMICS

(2.6)
Planing Surfaces

PRELIMINARY INVESTIGATION OF LAND-WATER
OPERATION WITH A 1/10-SCALE MODEL OF A
JET AIRPLANE EQUIPPED WITH HYDRO-SKIS.
William C. Thompson. March 1958. 25p. diagrs.,
photos., tabs. (NACA RM L58A22) CONFIDENTIAL

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(2) HYDRODYNAMICS

(2.10)

Stability and Control

HYDRODYNAMIC CHARACTERISTICS OF MISSILES
LAUNCHED UNDER WATER. John R. Dawson.
June 1958. 7p. diagrs., photo., film suppl. available
on request. (NACA RM L58E09a) CONFIDENTIAL

(2.10.1)

LONGITUDINAL

HYDRODYNAMIC CHARACTERISTICS OF A MODEL
OF A PROPOSED SIX-ENGINE HULL-TYPE SEA-
PLANE DESIGNED FOR SUPERSONIC FLIGHT.
Claude W. Coffee, Jr. July 1958. 32p. diagrs.,
photos., tab. (NACA RM L58E13) CONFIDENTIAL

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(3)
PROPULSION

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(3) PROPULSION

(3)

PROPULSION

PRELIMINARY PERFORMANCE DATA OBTAINED
IN A FULL-SCALE, FREE-JET INVESTIGATION
OF A SIDE-INLET SUPERSONIC DIFFUSER.

Ferris L. Seashore and John M. Farley. January
1958. 33p. diagrs., photos., tab.
(NACA RM E57E24)

CONFIDENTIAL

EXPLORATORY PERFORMANCE INVESTIGATION
OF COBURNER-TYPE COMBUSTORS. Allen J.

Metzler and Helmut F. Butze. August 1958. 27p.
diagrs., tabs. (NACA RM E58E20a) CONFIDENTIAL

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(3) PROPULSION

(3.1)

Complete Systems

INDUCTION SYSTEM CHARACTERISTICS AND ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-TYPE AIRPLANES. Terry J. Larson, George M. Thomas, and Donald R. Bellman. May 1958. 36p. diagrs., photos., tab. (NACA RM H58C14)

CONFIDENTIAL

(3.1.3)

TURBOJET ENGINES

EFFECT OF DESIGN COMPRESSOR PRESSURE RATIO ON PERFORMANCE OF HYPOTHETICAL TWO-SPOOL NUCLEAR-POWERED TURBOJET ENGINES. James F. Dugan, Jr. April 10, 1958. 46p. diagrs. (NACA RM E55K04)

CONFIDENTIAL

COMPONENT PERFORMANCE INVESTIGATION OF J71 EXPERIMENTAL TURBINE. X - EFFECT OF FIRST-STATOR ADJUSTMENT; INTERNAL FLOW CONDITIONS OF J71-97 TURBINE WITH 132-PERCENT-DESIGN STATOR AREA. Donald A. Petrash, Harold J. Schum, and Elmer H. Davison. January 1958. 19p. diagrs., photos. (NACA RM E57E29)

CONFIDENTIAL

EXPERIMENTAL BEHAVIOR OF PENTABORANE-AIR COMBUSTION PRODUCTS DURING EXPANSION IN A CONVERGENT-DIVERGENT NOZZLE. J. Robert Branstetter and Paul C. Setze. February 1958. (1), 69p. diagrs., photo., tabs. (NACA RM E57I20)

CONFIDENTIAL

EFFECT OF FORGING TEMPERATURE AND HEAT TREATMENT ON THE PERFORMANCE OF INCONEL 700 BUCKETS AT 1625° F IN A J33-9 TURBOJET ENGINE. C. A. Gyorgak, D. F. Springsteen, and J. R. Johnston. February 1958. 37p. diagrs., photos., tabs. (NACA RM E57K14)

CONFIDENTIAL

COMPARISON OF EXPERIMENTALLY AND ANALYTICALLY DETERMINED WINDMILLING CHARACTERISTICS OF A COMPRESSOR WITH LOW OVER-ALL PRESSURE RATIO. James E. Hatch. February 1958. 16p. diagrs. (NACA RM E57L12a)

CONFIDENTIAL

A PRELIMINARY STUDY OF THE EFFECT OF BORIC OXIDE DEPOSITS ON THE PERFORMANCE OF TWO SELECTED TURBINE STATOR-BLADE SHAPES. Paul C. Setze and William J. Nusbaum. February 1958. 23p. diagrs., photos. (NACA RM E57L18)

CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF THE EFFECT OF CIRCUMFERENTIAL INLET FLOW DISTORTION ON THE PERFORMANCE OF A FIVE-STAGE AXIAL-FLOW RESEARCH COMPRESSOR WITH TRANSONIC ROTORS IN ALL STAGES. William H. Robbins and Frederick Glaser. March 1958. 105p. diagrs., photo. (NACA RM E57J17)

CONFIDENTIAL

INVESTIGATION AT SUPERSONIC SPEEDS OF THE COMPRESSOR STALL AND INLET BUZZ CHARACTERISTICS OF A J34 - SPIKE-INLET COMBINATION. J. Cary Nettles and Robert C. Campbell. March 1958. 30p. diagrs., photo. (NACA RM E57K19b)

CONFIDENTIAL

SURVEY OF SUPERSONIC INLETS FOR HIGH MACH NUMBER APPLICATIONS. James F. Connors and John L. Allen. April 1958. 20p. diagrs., photos., tabs. (NACA RM E58A20)

CONFIDENTIAL

EXPERIMENTAL RESULTS OF AN INVESTIGATION OF TWO METHODS OF INFLIGHT THRUST MEASUREMENT APPLICABLE TO AFTERBURNING TURBOJET ENGINES WITH EJECTORS. Harry E. Bloomer. May 1958. 36p. diagrs., photos. (NACA RM E57H28)

CONFIDENTIAL

AN ACCELERATION SCHEDULE CONTROL FOR ACCELERATING A TURBOJET ENGINE AND ITS USE WITH A SPEED CONTROL. Theodore F. Gerus, Albert G. Powers, and Herbert J. Heppler. May 1958. 35p. diagrs. (NACA RM E58B19)

CONFIDENTIAL

EFFECT OF PRESSURE LEVEL ON AFTERBURNER-WALL TEMPERATURES. Thomas B. Shillito and George R. Smolak. June 1958. 24p. diagrs., photos. (NACA RM E58D01)

CONFIDENTIAL

EXPLORATORY PERFORMANCE INVESTIGATION OF COBURNER-TYPE COMBUSTORS. Allen J. Metzler and Helmut F. Butze. August 1958. 27p. diagrs., tabs. (NACA RM E58E20a)

CONFIDENTIAL

(3.1.4)

TURBO-PROPELLER ENGINES

COMPARISON OF CALCULATED AND EXPERIMENTAL TEMPERATURES AND COOLANT PRESSURE LOSSES FOR A CASCADE OF SMALL AIR-COOLED TURBINE ROTOR BLADES. Francis S. Stepka. September 1958. 25p. diagrs., photos. (NACA RM E58E20)

CONFIDENTIAL

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(3) PROPULSION

(3.1.5)

DUCTED PROPELLER ENGINES

EXPLORATORY PERFORMANCE INVESTIGATION OF COBURNER-TYPE COMBUSTORS. Allen J. Metzler and Helmut F. Butze. August 1958. 27p. diags., tabs. (NACA RM E58E20a) CONFIDENTIAL

(3.1.7)

RAM-JET ENGINES

PRELIMINARY PERFORMANCE DATA OBTAINED IN A FULL-SCALE, FREE-JET INVESTIGATION OF A SIDE-INLET SUPERSONIC DIFFUSER. Ferris L. Seashore and John M. Farley. January 1958. 33p. diags., photos., tab. (NACA RM E57E24) CONFIDENTIAL

EXPERIMENTAL BEHAVIOR OF PENTABORANE-AIR COMBUSTION PRODUCTS DURING EXPANSION IN A CONVERGENT-DIVERGENT NOZZLE. J. Robert Branstetter and Paul C. Setze. February 1958. (1), 69p. diags., photo., tabs. (NACA RM E57I20) CONFIDENTIAL

COMPARISON OF EXPERIMENTALLY AND ANALYTICALLY DETERMINED WINDMILLING CHARACTERISTICS OF A COMPRESSOR WITH LOW OVER-ALL PRESSURE RATIO. James E. Hatch. February 1958. 16p. diags. (NACA RM E57L12a) CONFIDENTIAL

SURVEY OF SUPERSONIC INLETS FOR HIGH MACH NUMBER APPLICATIONS. James F. Connors and John L. Allen. April 1958. 20p. diags., photos., tabs. (NACA RM E58A20) CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF EXTREME INTERNAL FLOW TURNING AT THE COWL LIP OF AN AXISYMMETRIC INLET AT A MACH NUMBER OF 2.95. Kenneth C. Weston and Kenneth L. Kowalski. May 1958. 20p. diags., photos., tab. (NACA RM E58A27a) CONFIDENTIAL

EFFECT OF DISSOCIATION ON EXHAUST-NOZZLE PERFORMANCE. T. W. Reynolds. June 1958. 25p. diags., tabs. (NACA RM E58C25) CONFIDENTIAL

(3.1.8)

ROCKET ENGINES

PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diags., photos., tabs. (NACA RM L58D09) CONFIDENTIAL

EVALUATION OF THREE INJECTORS IN A 2400-POUND-THRUST ROCKET ENGINE USING LIQUID OXYGEN AND LIQUID AMMONIA. Robert C. Hendricks, Robert C. Ehlers, and Jack C. Humphrey. July 1958. 16p. diags., tab. (NACA RM E58B25) CONFIDENTIAL

COMPARISON OF INJECTORS WITH A 200-POUND-THRUST AMMONIA-OXYGEN ENGINE. Richard J. Priem and Bruce J. Clark. September 1958. 9p. diags., tab. (NACA RM E57H01) CONFIDENTIAL

EXPERIMENTAL STUDY OF BALLISTIC-MISSILE BASE HEATING WITH OPERATING ROCKET. J. Cary Nettles. September 1958. 10p. diags., photo. (NACA RM E58G17) CONFIDENTIAL

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~~CONFIDENTIAL~~(3) PROPULSION

(3.2)
Control of Engines**(3.2.2)**
CONTROL OF TURBOJET ENGINES

PERFORMANCE OF AN INLET HAVING A VARIABLE-ANGLE TWO-DIMENSIONAL COMPRESSION SURFACE AND A FIXED-GEOMETRY SUBSONIC DIFFUSER FOR APPLICATION TO REDUCED ENGINE ROTATIVE SPEEDS: MACH NUMBERS 0.66, 1.5, 1.7, AND 2.0. John L. Allen. January 1958. 29p. diags., photos. (NACA RM E57J02)
CONFIDENTIAL

AN ACCELERATION SCHEDULE CONTROL FOR ACCELERATING A TURBOJET ENGINE AND ITS USE WITH A SPEED CONTROL. Theodore F. Gerus, Albert G. Powers, and Herbert J. Heppler. May 1958. 35p. diags. (NACA RM E58B19)
CONFIDENTIAL

(3.2.6)
**CONTROL OF
RAM-JET ENGINES**

PRELIMINARY PERFORMANCE DATA OBTAINED IN A FULL-SCALE, FREE-JET INVESTIGATION OF A SIDE-INLET SUPERSONIC DIFFUSER. Ferris L. Seashore and John M. Farley. January 1958. 33p. diags., photos., tab. (NACA RM E57E24)
CONFIDENTIAL

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(3) PROPULSION

(3.3)

Auxiliary Booster Systems

(3.3.2)

GAS TURBINES

(3.3.2.1)

LIQUID INJECTION

USE OF HIGHLY REACTIVE CHEMICAL ADDITIVES TO IMPROVE AFTERBURNER PERFORMANCE AT ALTITUDE. John P. Wanhainen and Joseph N. Sivo. September 1958. 24p. diagrs., photos. (NACA RM E58G10) **CONFIDENTIAL**

(3.3.2.2)

AFTERBURNING

EXPERIMENTAL RESULTS OF AN INVESTIGATION OF TWO METHODS OF INFLIGHT THRUST MEASUREMENT APPLICABLE TO AFTERBURNING TURBOJET ENGINES WITH EJECTORS. Harry E. Bloomer. May 1958. 36p. diagrs., photos. (NACA RM E57H28) **CONFIDENTIAL**

EFFECT OF PRESSURE LEVEL ON AFTERBURNER-WALL TEMPERATURES. Thomas B. Shillito and George R. Smolak. June 1958. 24p. diagrs., photos. (NACA RM E58D01) **CONFIDENTIAL**

USE OF HIGHLY REACTIVE CHEMICAL ADDITIVES TO IMPROVE AFTERBURNER PERFORMANCE AT ALTITUDE. John P. Wanhainen and Joseph N. Sivo. September 1958. 24p. diagrs., photos. (NACA RM E58G10) **CONFIDENTIAL**

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(3) PROPULSION

**(3.4)
Fuels****(3.4.1)
PREPARATION**

PREPARATION OF DIPENTABORYLMETHANE BY FRIEDEL-CRAFTS REACTION. Albert C. Antoine. April 1958. 11p. diagrs., tabs. (NACA RM E58A14a) **CONFIDENTIAL**

THERMAL REACTION OF DIBORANE WITH TRI-METHYLBORANE. John H. Lamneck, Jr., and Samuel Kaye. September 1958. 26p. diagrs., photo., tabs. (NACA RM E58E12) **CONFIDENTIAL**
(Title, Confidential)

**(3.4.2)
PHYSICAL AND CHEMICAL
PROPERTIES**

THE ADHESION OF MOLTEN BORON OXIDE TO VARIOUS MATERIALS. W. R. Witzke. April 1958. 13p. diagrs., photos., tab. (NACA RM E57L11) **CONFIDENTIAL**

PREPARATION OF DIPENTABORYLMETHANE BY FRIEDEL-CRAFTS REACTION. Albert C. Antoine. April 1958. 11p. diagrs., tabs. (NACA RM E58A14a) **CONFIDENTIAL**

THERMAL REACTION OF DIBORANE WITH TRI-METHYLBORANE. John H. Lamneck, Jr., and Samuel Kaye. September 1958. 26p. diagrs., photo., tabs. (NACA RM E58E12) **CONFIDENTIAL**
(Title, Confidential)

**(3.4.3)
RELATION TO ENGINE
PERFORMANCE**

EXPERIMENTAL BEHAVIOR OF PENTABORANE-AIR COMBUSTION PRODUCTS DURING EXPANSION IN A CONVERGENT-DIVERGENT NOZZLE. J. Robert Branstetter and Paul C. Setze. February 1958. (1), 69p. diagrs., photo., tabs. (NACA RM E57I20) **CONFIDENTIAL**

A PRELIMINARY STUDY OF THE EFFECT OF BORIC OXIDE DEPOSITS ON THE PERFORMANCE OF TWO SELECTED TURBINE STATOR-BLADE SHAPES. Paul C. Setze and William J. Nusbaum. February 1958. 23p. diagrs., photos. (NACA RM E57L18) **CONFIDENTIAL**

THE ADHESION OF MOLTEN BORON OXIDE TO VARIOUS MATERIALS. W. R. Witzke. April 1958. 13p. diagrs., photos., tab. (NACA RM E57L11) **CONFIDENTIAL**

EFFECT OF DISSOCIATION ON EXHAUST-NOZZLE PERFORMANCE. T. W. Reynolds. June 1958. 25p. diagrs., tabs. (NACA RM E58C25) **CONFIDENTIAL**

A STUDY OF THE COMBUSTION RATES OF HYDRO-CARBON FUELS WITH RED FUMING NITRIC ACID IN A SMALL ROCKET ENGINE. Louis Baker, Jr. August 1958. 42p. diagrs., tabs. (NACA RM E58D03a) **CONFIDENTIAL**

**(3.4.3.2)
TURBINE ENGINES, RAM JETS,
AND PULSE JETS**

LOW-PRESSURE PERFORMANCE OF A TUBULAR COMBUSTOR WITH GASEOUS HYDROGEN. Edmund R. Jonash, Arthur L. Smith, and Vincent F. Hlavin. May 9, 1955. 37p. diagrs., tabs. (NACA RM E54L30a) **CONFIDENTIAL**

A PRELIMINARY STUDY OF THE EFFECT OF BORIC OXIDE DEPOSITS ON THE PERFORMANCE OF TWO SELECTED TURBINE STATOR-BLADE SHAPES. Paul C. Setze and William J. Nusbaum. February 1958. 23p. diagrs., photos. (NACA RM E57L18) **CONFIDENTIAL**

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(3) PROPULSION

(3.4.3.3)
ROCKETS (INCLUDES FUEL
AND OXIDANT)

PERFORMANCE OF JP-4 FUEL WITH FLUORINE-
OXYGEN MIXTURES IN 1000-POUND-THRUST
ROCKET ENGINES. Donald L. Nored and Howard W.
Douglass. June 1958. 30p. diagrs., photos., tab.
(NACA RM E58C18) CONFIDENTIAL
(Title, Confidential)

EVALUATION OF THREE INJECTORS IN A 2400-
POUND-THRUST ROCKET ENGINE USING LIQUID
OXYGEN AND LIQUID AMMONIA. Robert C.
Hendricks, Robert C. Ehlers, and Jack C. Humphrey.
July 1958. 16p. diagrs., tab. (NACA RM E58B25)
CONFIDENTIAL

CHEMICAL AND PHYSICAL FACTORS AFFECTING
COMBUSTION IN FUEL - NITRIC ACID SYSTEMS.
Louis Baker, Jr. July 1958. 20p. diagrs., tab.
(NACA RM E58D03) CONFIDENTIAL

A STUDY OF THE COMBUSTION RATES OF HYDRO-
CARBON FUELS WITH RED FUMING NITRIC ACID
IN A SMALL ROCKET ENGINE. Louis Baker, Jr.
August 1958. 42p. diagrs., tabs.
(NACA RM E58D03a) CONFIDENTIAL

COMPARISON OF INJECTORS WITH A 200-POUND-
THRUST AMMONIA-OXYGEN ENGINE. Richard J.
Priem and Bruce J. Clark. September 1958. 9p.
diagrs., tab. (NACA RM E57H01) CONFIDENTIAL

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(3) PROPULSION

(3.5)

Combustion and Combustors

THE ADHESION OF MOLTEN BORON OXIDE TO VARIOUS MATERIALS. W. R. Witzke. April 1958. 13p. diagrs., photos., tab. (NACA RM E57L11)
CONFIDENTIAL

EXPLORATORY PERFORMANCE INVESTIGATION OF COBURNER-TYPE COMBUSTORS. Allen J. Metzler and Helmut F. Butze. August 1958. 27p. diagrs., tabs. (NACA RM E58E20a) CONFIDENTIAL

(3.5.1)

GENERAL COMBUSTION RESEARCH

A PRELIMINARY INVESTIGATION OF THE PERFORMANCE OF A SHORT-LENGTH TURBOJET COMBUSTOR USING VAPORIZED HYDROCARBON FUELS. R. E. Jones and E. V. Pawlik. January 1958. 28p. diagrs., photos., tabs. (NACA RM E57J03) CONFIDENTIAL

(3.5.1.4)

EFFECTS OF FUEL ATOMIZATION

EVALUATION OF THREE INJECTORS IN A 2400-POUND-THRUST ROCKET ENGINE USING LIQUID OXYGEN AND LIQUID AMMONIA. Robert C. Hendricks, Robert C. Ehlers, and Jack C. Humphrey. July 1958. 16p. diagrs., tab. (NACA RM E58B25) CONFIDENTIAL

COMPARISON OF INJECTORS WITH A 200-POUND-THRUST AMMONIA-OXYGEN ENGINE. Richard J. Priem and Bruce J. Clark. September 1958. 9p. diagrs., tab. (NACA RM E57H01) CONFIDENTIAL

(3.5.1.5)

REACTION MECHANISMS

EFFECT OF DISSOCIATION ON EXHAUST-NOZZLE PERFORMANCE. T. W. Reynolds. June 1958. 25p. diagrs., tabs. (NACA RM E58C25) CONFIDENTIAL

A STUDY OF THE COMBUSTION RATES OF HYDROCARBON FUELS WITH RED FUMING NITRIC ACID IN A SMALL ROCKET ENGINE. Louis Baker, Jr. August 1958. 42p. diagrs., tabs. (NACA RM E58D03a) CONFIDENTIAL

USE OF HIGHLY REACTIVE CHEMICAL ADDITIVES TO IMPROVE AFTERBURNER PERFORMANCE AT ALTITUDE. John P. Wanhainen and Joseph N. Sivo. September 1958. 24p. diagrs., photos. (NACA RM E58G10) CONFIDENTIAL

(3.5.2)

EFFECT OF ENGINE OPERATING CONDITIONS AND COMBUSTION CHAMBER GEOMETRY

A PRELIMINARY INVESTIGATION OF THE PERFORMANCE OF A SHORT-LENGTH TURBOJET COMBUSTOR USING VAPORIZED HYDROCARBON FUELS. R. E. Jones and E. V. Pawlik. January 1958. 28p. diagrs., photos., tabs. (NACA RM E57J03) CONFIDENTIAL

(3.5.2.2)

TURBINE ENGINES

LOW-PRESSURE PERFORMANCE OF A TUBULAR COMBUSTOR WITH GASEOUS HYDROGEN. Edmund R. Jonash, Arthur L. Smith, and Vincent F. Hlavin. May 9, 1955. 37p. diagrs., tabs. (NACA RM E54L30a) CONFIDENTIAL

EXPLORATORY PERFORMANCE INVESTIGATION OF COBURNER-TYPE COMBUSTORS. Allen J. Metzler and Helmut F. Butze. August 1958. 27p. diagrs., tabs. (NACA RM E58E20a) CONFIDENTIAL

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(3) PROPULSION

(3.5.2.5)
ROCKET ENGINES

EVALUATION OF THREE INJECTORS IN A 2400-
POUND-THRUST ROCKET ENGINE USING LIQUID
OXYGEN AND LIQUID AMMONIA. Robert C.
Hendricks, Robert C. Ehlers, and Jack C. Humphrey.
July 1958. 16p. diags., tab. (NACA RM E58B25)
CONFIDENTIAL

CHEMICAL AND PHYSICAL FACTORS AFFECTING
COMBUSTION IN FUEL - NITRIC ACID SYSTEMS.
Louis Baker, Jr. July 1958. 20p. diags., tab.
(NACA RM E58D03) CONFIDENTIAL

A STUDY OF THE COMBUSTION RATES OF HYDRO-
CARBON FUELS WITH RED FUMING NITRIC ACID
IN A SMALL ROCKET ENGINE. Louis Baker, Jr.
August 1958. 42p. diags., tabs.
(NACA RM E58D03a) CONFIDENTIAL

COMPARISON OF INJECTORS WITH A 200-POUND-
THRUST AMMONIA-OXYGEN ENGINE. Richard J.
Priem and Bruce J. Clark. September 1958. 9p.
diags., tab. (NACA RM E57H01) CONFIDENTIAL

~~CONFIDENTIAL~~

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(3) PROPULSION

(3.6)

Compression and Compressors

(3.6.1)

**FLOW THEORY AND
EXPERIMENT**

EXPERIMENTAL INVESTIGATION OF THE EFFECT OF CIRCUMFERENTIAL INLET FLOW DISTORTION ON THE PERFORMANCE OF A FIVE-STAGE AXIAL-FLOW RESEARCH COMPRESSOR WITH TRANSONIC ROTORS IN ALL STAGES. William H. Robbins and Frederick Glaser. March 1958. 105p. diags., photo. (NACA RM E57J17) **CONFIDENTIAL**

EXPERIMENTAL SHOCK CONFIGURATIONS AND SHOCK LOSSES IN A TRANSONIC-COMPRESSOR ROTOR AT DESIGN SPEED. Genevieve R. Miller and Melvin J. Hartmann. June 1958. 55p. diags., photos. (NACA RM E58A14b) **CONFIDENTIAL**

EXPERIMENTAL PERFORMANCE OF A 0.35 HUB-TIP RADIUS RATIO TRANSONIC AXIAL-FLOW-COMPRESSOR STAGE DESIGNED FOR 40 POUNDS PER SECOND PER UNIT FRONTAL AREA. Richard R. Cullom, John C. Montgomery, and Paul T. Yasaki. September 1958. 32p. diags., tab. (NACA RM E58D04a) **CONFIDENTIAL**
(Title, Confidential)

DESIGN AND EXPERIMENTAL PERFORMANCE OF A 0.35 HUB-TIP RADIUS RATIO TRANSONIC AXIAL-FLOW-COMPRESSOR ROTOR DESIGNED FOR 40 POUNDS PER SECOND PER UNIT FRONTAL AREA. John C. Montgomery and Paul T. Yasaki. September 1958. 39p. diags., tabs. (NACA RM E58D17) **CONFIDENTIAL**
(Title, Confidential)

(3.6.1.1)
AXIAL FLOW

EFFECT OF DESIGN COMPRESSOR PRESSURE RATIO ON PERFORMANCE OF HYPOTHETICAL TWO-SPOOL NUCLEAR-POWERED TURBOJET ENGINES. James F. Dugan, Jr. April 10, 1956. 46p. diags. (NACA RM E55K04) **CONFIDENTIAL**

PRELIMINARY ANALYSIS OF OVER-ALL PERFORMANCE OF AN EIGHT-STAGE AXIAL-FLOW RESEARCH COMPRESSOR WITH TWO LONG-CHORD TRANSONIC INLET STAGES. Gilbert K. Sievers, Richard P. Gey, and James G. Lucas. February 1958. 19p. diags., photos. (NACA RM E57H14) **CONFIDENTIAL**

INVESTIGATION OF REYNOLDS NUMBER EFFECT ON PERFORMANCE OF AN EIGHT-STAGE AXIAL-FLOW RESEARCH COMPRESSOR WITH LONG- AND MEDIUM-CHORD LENGTHS IN THE TWO TRANSONIC INLET STAGES. Gilbert K. Sievers, Richard P. Gey, and James G. Lucas. February 1958. 21p. diags., photo. (NACA RM E57J30) **CONFIDENTIAL**

COMPARISON OF EXPERIMENTALLY AND ANALYTICALLY DETERMINED WINDMILLING CHARACTERISTICS OF A COMPRESSOR WITH LOW OVER-ALL PRESSURE RATIO. James E. Hatch. February 1958. 16p. diags. (NACA RM E57L12a) **CONFIDENTIAL**

TRANSONIC INVESTIGATION OF AN AXIAL-FLOW COMPRESSOR ROTOR WITH A CONTRACTED EXIT ANNULUS. Robert S. Babington. February 1958. 41p. diags., photo. (NACA RM L57K27) **CONFIDENTIAL**

EXPERIMENTAL INVESTIGATION OF THE EFFECT OF CIRCUMFERENTIAL INLET FLOW DISTORTION ON THE PERFORMANCE OF A FIVE-STAGE AXIAL-FLOW RESEARCH COMPRESSOR WITH TRANSONIC ROTORS IN ALL STAGES. William H. Robbins and Frederick Glaser. March 1958. 105p. diags., photo. (NACA RM E57J17) **CONFIDENTIAL**

TWO-DIMENSIONAL CASCADE INVESTIGATION AT MACH NUMBERS UP TO 1.0 OF NACA 65-SERIES BLADE SECTIONS AT CONDITIONS TYPICAL OF COMPRESSOR TIPS. James C. Dunavant and James C. Emery. March 1958. 185p. diags., photos., tab. (NACA RM L58A02) **CONFIDENTIAL**

INVESTIGATION OF A HIGH-FLOW TRANSONIC-COMPRESSOR INLET STAGE HAVING A HUB-TIP RADIUS RATIO OF 0.35. A. Richard Felix. March 1958. 47p. diags., photos., tab. (NACA RM L58A08) **CONFIDENTIAL**

INVESTIGATION OF TWO-STAGE COUNTER-ROTATING COMPRESSOR. IV - OVER-ALL PERFORMANCE OF COMPRESSOR WITH MODIFIED SECOND-STAGE ROTOR. Ward W. Wilcox and William Stevens. May 1958. 31p. diags., tab. (NACA RM E58A27) **CONFIDENTIAL**

RELATION BETWEEN FLOW RANGE AND OTHER COMPRESSOR-STAGE CHARACTERISTICS. Arthur W. Goldstein and Ralph L. Schacht. May 1958. 37p. diags. (NACA RM E58B24) **CONFIDENTIAL**

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(3) PROPULSION

INDUCTION SYSTEM CHARACTERISTICS AND ENGINE SURGE OCCURRENCE FOR TWO FIGHTER-TYPE AIRPLANES. Terry J. Larson, George M. Thomas, and Donald R. Bellman. May 1958. 36p. diagrs., photos., tab. (NACA RM H58C14)

CONFIDENTIAL

EXPERIMENTAL SHOCK CONFIGURATIONS AND SHOCK LOSSES IN A TRANSONIC-COMPRESSOR ROTOR AT DESIGN SPEED. Genevieve R. Miller and Melvin J. Hartmann. June 1958. 55p. diagrs., photos. (NACA RM E58A14b)

CONFIDENTIAL

ANALYSIS OF TRANSONIC ROTOR-BLADE PASSAGE LOSS WITH HOT-WIRE ANEMOMETERS. George W. Lewis, Edward R. Tysl, and Theodore E. Fessler. June 1958. 28p. diagrs., photos. (NACA RM E58C04)

CONFIDENTIAL

EXPERIMENTAL PERFORMANCE OF A 0.35 HUB-TIP RADIUS RATIO TRANSONIC AXIAL-FLOW-COMPRESSOR STAGE DESIGNED FOR 40 POUNDS PER SECOND PER UNIT FRONTAL AREA. Richard R. Cullom, John C. Montgomery, and Paul T. Yasaki. September 1958. 32p. diagrs., tab. (NACA RM E58D04a)

CONFIDENTIAL

(Title, Confidential)

DESIGN AND EXPERIMENTAL PERFORMANCE OF A 0.35 HUB-TIP RADIUS RATIO TRANSONIC AXIAL-FLOW-COMPRESSOR ROTOR DESIGNED FOR 40 POUNDS PER SECOND PER UNIT FRONTAL AREA. John C. Montgomery and Paul T. Yasaki. September 1958. 39p. diagrs., tabs. (NACA RM E58D17)

CONFIDENTIAL

(Title, Confidential)

(3.6.3)
MATCHING

EFFECT OF DESIGN COMPRESSOR PRESSURE RATIO ON PERFORMANCE OF HYPOTHETICAL TWO-SPOOL NUCLEAR-POWERED TURBOJET ENGINES. James F. Dugan, Jr. April 10, 1956. 46p. diagrs. (NACA RM E55K04)

CONFIDENTIAL

PRELIMINARY ANALYSIS OF OVER-ALL PERFORMANCE OF AN EIGHT-STAGE AXIAL-FLOW RESEARCH COMPRESSOR WITH TWO LONG-CHORD TRANSONIC INLET STAGES. Gilbert K. Stevers, Richard P. Geye, and James G. Lucas. February 1958. 19p. diagrs., photos. (NACA RM E57H14)

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(3) PROPULSION

(3.7)
Turbines(3.7.1)
FLOW THEORY AND
EXPERIMENT

COMPONENT PERFORMANCE INVESTIGATION OF J71 EXPERIMENTAL TURBINE. X - EFFECT OF FIRST-STATOR ADJUSTMENT; INTERNAL FLOW CONDITIONS OF J71-97 TURBINE WITH 132-PERCENT-DESIGN STATOR AREA. Donald A. Petrash, Harold J. Schum, and Elmer H. Davison. January 1958. 19p. diagrs., photos. (NACA RM E57E29) CONFIDENTIAL

(3.7.1.1)
AXIAL FLOW

EFFECT OF DESIGN COMPRESSOR PRESSURE RATIO ON PERFORMANCE OF HYPOTHETICAL TWO-SPOOL NUCLEAR-POWERED TURBOJET ENGINES. James F. Dugan, Jr. April 10, 1956. 46p. diagrs. (NACA RM E55K04) CONFIDENTIAL

COMPONENT PERFORMANCE INVESTIGATION OF J71 EXPERIMENTAL TURBINE. X - EFFECT OF FIRST-STATOR ADJUSTMENT; INTERNAL FLOW CONDITIONS OF J71-97 TURBINE WITH 132-PERCENT-DESIGN STATOR AREA. Donald A. Petrash, Harold J. Schum, and Elmer H. Davison. January 1958. 19p. diagrs., photos. (NACA RM E57E29) CONFIDENTIAL

EXPERIMENTAL INVESTIGATION OF A 7-INCH-TIP-DIAMETER TRANSONIC TURBINE. Warren J. Whitney and William T. Wintucky. January 1958. 14p. diagrs., photo., tabs. (NACA RM E57J29) CONFIDENTIAL

A METHOD FOR RAPID SELECTION OF DESIGN CHARACTERISTICS OF 1-, $1\frac{1}{2}$ -, AND 2-STAGE TURBINES WITH OPTIMUM ANNULUS TAPER. Peggy L. Yohner and Robert E. English. February 1958. 86p. diagrs., tabs. (NACA RM E57J09) CONFIDENTIAL

A PRELIMINARY STUDY OF THE EFFECT OF BORIC OXIDE DEPOSITS ON THE PERFORMANCE OF TWO SELECTED TURBINE STATOR-BLADE SHAPES. Paul C. Setze and William J. Nusbaum. February 1958. 23p. diagrs., photos. (NACA RM E57L18) CONFIDENTIAL

A METHOD FOR DETERMINING TURBINE DESIGN CHARACTERISTICS FOR ROCKET TURBODRIVE APPLICATIONS. Warner L. Stewart, David G. Evans, and Warren J. Whitney. May 1958. 32p. diagrs., tab. (NACA RM E57K25a) CONFIDENTIAL

DESIGN AND EXPERIMENTAL INVESTIGATION OF A SINGLE-STAGE TURBINE WITH A ROTOR ENTERING RELATIVE MACH NUMBER OF 2. Thomas P. Moffitt. September 1958. 30p. diagrs., photos., tabs. (NACA RM E58F20a) CONFIDENTIAL

(3.7.1.3)
MIXED FLOW

INVESTIGATION OF A 0.6 HUB-TIP RADIUS-RATIO TRANSONIC TURBINE DESIGNED FOR SECONDARY-FLOW STUDY. IV - ROTOR LOSS PATTERNS AS DETERMINED BY HOT-WIRE ANEMOMETERS WITH ROTOR OPERATING IN A CIRCUMFERENTIALLY UNIFORM INLET FLOW FIELD. Milton G. Kofskey and Hubert W. Allen. May 1958. 20p. diagrs., photos. (NACA RM E58B27) CONFIDENTIAL

(3.7.2)
COOLING

COMPARISON OF CALCULATED AND EXPERIMENTAL TEMPERATURES AND COOLANT PRESSURE LOSSES FOR A CASCADE OF SMALL AIR-COOLED TURBINE ROTOR BLADES. Francis S. Stepka. September 1958. 25p. diagrs., photos. (NACA RM E58E20) CONFIDENTIAL

(3.7.3)
STRESS AND VIBRATION

EFFECT OF FORGING TEMPERATURE AND HEAT TREATMENT ON THE PERFORMANCE OF INCONEL 700 BUCKETS AT 1625° F IN A J33-9 TURBOJET ENGINE. C. A. Gyorgak, D. F. Springsteen, and J. R. Johnston. February 1958. 37p. diagrs., photos., tabs. (NACA RM E57K14) CONFIDENTIAL

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(3) PROPULSION

**(3.7.4)
MATCHING**

EFFECT OF DESIGN COMPRESSOR PRESSURE RATIO ON PERFORMANCE OF HYPOTHETICAL TWO-SPOOL NUCLEAR-POWERED TURBOJET ENGINES. James F. Dugan, Jr. April 10, 1956. 46p. diagrs. (NACA RM E55K04) CONFIDENTIAL

A METHOD FOR RAPID SELECTION OF DESIGN CHARACTERISTICS OF 1-, $1\frac{1}{2}$ -, AND 2-STAGE TURBINES WITH OPTIMUM ANNULUS TAPER. Peggy L. Yohner and Robert E. English. February 1958. 86p. diagrs., tabs. (NACA RM E57J09) CONFIDENTIAL

~~CONFIDENTIAL~~

~~CONFIDENTIAL~~**(3) PROPULSION****(3.9)
Heat Transfer**

LIMITED TESTS OF MOLYBDENUM COATED WITH MOLYBDENUM DISILICIDE IN A SUPERSONIC HEATED-AIR JET AND BRIEF DESCRIPTION OF THE COATING FACILITY. E. M. Fields and N. T. Wakelyn. January 1958. 21p. diagrs., photos., tabs. (NACA RM L57I12) **CONFIDENTIAL**

PRELIMINARY SURVEY OF POSSIBLE COOLING METHODS FOR HYPERSONIC AIRCRAFT. Jack B. Esgar, Robert O. Hickel, and Francis S. Stepka. May 1958. 37p. diagrs. (NACA RM E57L19) **CONFIDENTIAL**

EFFECT OF PRESSURE LEVEL ON AFTERBURNER-WALL TEMPERATURES. Thomas B. Shillito and George R. Smolak. June 1958. 24p. diagrs., photos. (NACA RM E58D01) **CONFIDENTIAL**

**(3.9.1)
THEORY AND EXPERIMENT**

COMPARISON OF CALCULATED AND EXPERIMENTAL TEMPERATURES AND COOLANT PRESSURE LOSSES FOR A CASCADE OF SMALL AIR-COOLED TURBINE ROTOR BLADES. Francis S. Stepka. September 1958. 25p. diagrs., photos. (NACA RM E58E20) **CONFIDENTIAL**

**(3.9.1.1)
CASCADES**

COMPARISON OF CALCULATED AND EXPERIMENTAL TEMPERATURES AND COOLANT PRESSURE LOSSES FOR A CASCADE OF SMALL AIR-COOLED TURBINE ROTOR BLADES. Francis S. Stepka. September 1958. 25p. diagrs., photos. (NACA RM E58E20) **CONFIDENTIAL**

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(3) PROPULSION

(3.10) Cooling of Engines

(3.10.2) GAS-TURBINE SYSTEMS

EFFECT OF PRESSURE LEVEL ON AFTERBURNER-WALL TEMPERATURES. Thomas B. Shillito and George R. Smolak. June 1958. 24p. diagrs., photos. (NACA RM E58D01) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF A FULL-SCALE AIR-CRAFT EJECTOR WITH VARIOUS SPACING RATIOS AND CORRELATION WITH SMALL-SCALE TESTS. C. Dewey Havill and Rodney C. Wingrove. August 1958. 48p. diagrs., photos., tab. (NACA RM A58D21) **CONFIDENTIAL**

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(3) PROPULSION

(3.12) Accessories and Accessory Functions

(3.12.1) FUEL SYSTEMS

(3.12.1.8) ROCKET ENGINES

EXPERIMENTAL INVESTIGATION OF A 7-INCH-TIP-DIAMETER TRANSONIC TURBINE. Warren J. Whitney and William T. Wintucky. January 1958. 14p. diagrs., photo., tabs. (NACA RM E57J29)
CONFIDENTIAL

DESIGN AND EXPERIMENTAL INVESTIGATION OF A SINGLE-STAGE TURBINE WITH A ROTOR ENTERING RELATIVE MACH NUMBER OF 2. Thomas P. Moffitt. September 1958. 30p. diagrs., photos., tabs. (NACA RM E58F20a)
CONFIDENTIAL

(3.12.1.8.1) Turbopump

A METHOD FOR DETERMINING TURBINE DESIGN CHARACTERISTICS FOR ROCKET TURBODRIVE APPLICATIONS. Warner L. Stewart, David G. Evans, and Warren J. Whitney. May 1958. 32p. diagrs., tab. (NACA RM E57K25a) CONFIDENTIAL

(3.12.5) COOLING SYSTEMS

FEASIBILITY OF NOSE-CONE COOLING BY THE UPSTREAM EJECTION OF SOLID COOLANTS AT THE STAGNATION POINT. William H. Kinard. March 1958. 17p. diagrs., photos., tab. (NACA RM L57K22) CONFIDENTIAL

PRELIMINARY SURVEY OF POSSIBLE COOLING METHODS FOR HYPERSONIC AIRCRAFT. Jack B. Esgar, Robert O. Hickel, and Francis S. Stepka. May 1958. 37p. diagrs. (NACA RM E57L19)
CONFIDENTIAL

EXPERIMENTAL ABLATION COOLING. Aleck C. Bond, Bernard Rashis, and L. Ross Levin. July 1958. 17p. diagrs., photos., film suppl. available on request. (NACA RM L58E15a) CONFIDENTIAL

QUALITATIVE MEASUREMENTS OF THE EFFECTIVE HEATS OF ABLATION OF SEVERAL MATERIALS IN SUPERSONIC AIR JETS AT STAGNATION TEMPERATURES UP TO 11,000° F. Bernard Rashis, William G. Witte, and Russell N. Hopko. July 1958. 25p. diagrs., photo., tabs. (NACA RM L58E22) CONFIDENTIAL

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(4)

**AIRCRAFT LOADS
AND CONSTRUCTION**

(4)

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(4) AIRCRAFT LOADS AND CONSTRUCTION

(4.1)

Loads

(4.1.1)

AERODYNAMIC

TABULATED PRESSURE DATA FOR A 60° DELTA-WING-BODY-TAIL MODEL WITH A HOT JET EXHAUSTING FROM A PYLON-MOUNTED NACELLE. Edwin E. Lee, Jr., and John M. Swihart. February 1958. 199p. diagrs., photos., tabs. (NACA RM L57J22) **CONFIDENTIAL**

(4.1.1.1)

WINGS

AERODYNAMIC LOAD DISTRIBUTION ON A 45° SWEPTBACK WING WITH LEADING-EDGE CHORD-EXTENSIONS AT TRANSONIC SPEEDS, INCLUDING EFFECTS OF A SPOILER-SLOT-DEFLECTOR AILERON. James W. Schmeer, Charles F. Whitcomb, and F. E. West, Jr. February 1958. 78p. diagrs., tabs. (NACA RM L57L02) **CONFIDENTIAL**

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEPT OR UNSWEPT WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diagrs., tabs. (NACA RM L57L10) **CONFIDENTIAL**

AN ANALYSIS OF SURFACE PRESSURES AND AERODYNAMIC LOAD DISTRIBUTION OVER THE SWEPT WING OF THE DOUGLAS D-558-II RESEARCH AIRPLANE AT MACH NUMBERS FROM 0.73 TO 1.73. Norman V. Taillon. April 1958. 51p. diagrs., photo., tabs. (NACA RM H58A30) **CONFIDENTIAL**

PRESSURE LOADS PRODUCED ON A FLAT-PLATE WING BY ROCKET JETS EXHAUSTING IN A SPANWISE DIRECTION BELOW THE WING AND PERPENDICULAR TO A FREE-STREAM FLOW OF MACH NUMBER 2.0. Ralph A. Falanga and Joseph J. Janos. June 1958. 47p. diagrs., photos., tabs. (NACA RM L58D09) **CONFIDENTIAL**

EFFECT OF LEADING-EDGE-FLAP DEFLECTION ON THE WING LOADS, LOAD DISTRIBUTIONS, AND FLAP HINGE MOMENTS OF THE DOUGLAS X-3 RESEARCH AIRPLANE AT TRANSONIC SPEEDS. Earl R. Keener, Norman J. McLeod, and Norman V. Taillon. July 1958. 87p. diagrs., photos., tabs. (NACA RM H58D29) **CONFIDENTIAL**

(4.1.1.1.1)

Steady Loads

TABULATED PRESSURE DATA FOR A 60° DELTA-WING-BODY-TAIL MODEL WITH A HOT JET EXHAUSTING FROM A PYLON-MOUNTED NACELLE. Edwin E. Lee, Jr., and John M. Swihart. February 1958. 199p. diagrs., photos., tabs. (NACA RM L57J22) **CONFIDENTIAL**

ANALYSIS OF FLIGHT-DETERMINED AND PREDICTED EFFECTS OF FLEXIBILITY ON THE STEADY-STATE WING LOADS OF THE B-52 AIRPLANE. Albert E. Kuhl, John T. Rogers, and Mary V. Little. April 1958. 57p. diagrs., photo., tab. (NACA RM H57C25) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DISTRIBUTIONS FOR A SERIES OF TIP AND TRAILING-EDGE CONTROLS ON A 60° DELTA WING AT MACH NUMBERS OF 1.61 AND 2.01. Douglas R. Lord and K. R. Czarnecki. May 1958. ii, 231p. diagrs., photos., tabs. (NACA RM L58C07) **CONFIDENTIAL**

TRANSONIC INVESTIGATION OF YAWED WINGS OF ASPECT RATIOS 3 AND 6 WITH A SEARS-HAACK BODY AND WITH SYMMETRICAL AND ASYMMETRICAL BODIES INDENTED FOR A MACH NUMBER OF 1.20. George H. Holdaway and Elaine W. Hatfield. June 1958. 111p. diagrs., photos., tabs. (NACA RM A58C03) **CONFIDENTIAL**

A WIND-TUNNEL INVESTIGATION OF THE WING LOADS DUE TO DEFLECTED INBOARD AILERONS ON A 45° SWEPTBACK WING AT TRANSONIC SPEEDS. Atwood R. Heath, Jr., and Ann W. Igoo. July 1958. 101p. diagrs., photos., tabs. (NACA RM L58E12) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DATA OBTAINED AT TRANSONIC SPEEDS ON A THIN LOW-ASPECT-RATIO CAMBERED DELTA WING-BODY COMBINATION. John P. Mugler, Jr. September 1958. 36p. diagrs., photos. (NACA RM L58F24) **CONFIDENTIAL**

(4.1.1.1.2)

Maneuvering

AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 60p. diagrs., tabs. (NACA RM A57K07) **CONFIDENTIAL**

~~CONFIDENTIAL~~**(4) AIRCRAFT LOADS AND CONSTRUCTION**

FLIGHT INVESTIGATION OF THE AERODYNAMIC FORCES ON A WING-MOUNTED EXTERNAL-STORE INSTALLATION ON THE DOUGLAS D-558-II RESEARCH AIRPLANE. Clinton T. Johnson. May 1958. 42p. diagrs., photos., tabs. (NACA RM H58B24) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matranga. June 1958. 39p. diagrs., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

(4.1.1.1.3)**Gust Loads**

INVESTIGATION OF VORTEX MOVEMENTS ABOUT A WING IN STEADY SUBSONIC FLOW UNDERGOING A LARGE ANGLE-OF-ATTACK CHANGE IN A BLAST-INDUCED GUST. Donald R. McFarland and Paul W. Huber. January 1958. 41p. diagrs., photos., tab. (NACA RM L57K04) **CONFIDENTIAL**

(4.1.1.1.4)**Buffeting Loads**

BUFFET TESTS OF AN ATTACK-AIRPLANE MODEL WITH EMPHASIS ON ANALYSIS OF DATA FROM WIND-TUNNEL TESTS. Don D. Davis, Jr., and Dewey E. Wornom. February 1958. 56p. diagrs., photos., tab. (NACA RM L57H13) **CONFIDENTIAL**

MEASUREMENTS OF THE BUFFETING LOADS ON THE WING AND HORIZONTAL TAIL OF A 1/4-SCALE MODEL OF THE X-1E AIRPLANE. A. Gerald Rainey and William B. Igoo. September 1958. 35p. diagrs., photo., tabs. (NACA RM L58F25) **CONFIDENTIAL**

(4.1.1.2)**TAIL****(4.1.1.2.1)****Steady Loads**

EFFECT AT HIGH SUBSONIC SPEEDS OF FUSELAGE FOREBODY STRAKES ON THE STATIC STABILITY AND VERTICAL-TAIL-LOAD CHARACTERISTICS OF A COMPLETE MODEL HAVING A DELTA WING. Edward C. Polhamus and Kenneth P. Spreemann. February 1958. 32p. diagrs., photo. (NACA RM L57K15a) **CONFIDENTIAL**

(4.1.1.2.2)**Maneuvering**

AN ANALYTICAL EVALUATION OF THE EFFECTS OF AN AERODYNAMIC MODIFICATION AND OF STABILITY AUGMENTERS ON THE PITCH-UP BEHAVIOR AND PROBABLE PILOT OPINION OF TWO CURRENT FIGHTER AIRPLANES. Melvin Sadoff and John D. Stewart. April 1958. 90p. diagrs., tabs. (NACA RM A57K07) **CONFIDENTIAL**

(4.1.1.2.3)**Buffeting and Gust**

MEASUREMENTS OF THE BUFFETING LOADS ON THE WING AND HORIZONTAL TAIL OF A 1/4-SCALE MODEL OF THE X-1E AIRPLANE. A. Gerald Rainey and William B. Igoo. September 1958. 35p. diagrs., photo., tabs. (NACA RM L58F25) **CONFIDENTIAL**

(4.1.1.3)**BODIES**

EXPERIMENTAL AND THEORETICAL DETERMINATION OF FORCES AND MOMENTS ON A STORE AND ON A STORE-PYLON COMBINATION MOUNTED ON A 45° SWEEP-WING-FUSELAGE CONFIGURATION AT A MACH NUMBER OF 1.61. Odell A. Morris, Harry W. Carlson, and Douglas J. Geler. January 1958. 123p. diagrs., photos. (NACA RM L57K18) **CONFIDENTIAL**

WIND-TUNNEL INVESTIGATION OF THE EFFECTS OF LIP GEOMETRY ON DRAG AND PRESSURE RECOVERY OF A NORMAL-SHOCK NOSE INLET ON A BODY OF REVOLUTION AT MACH NUMBERS OF 1.41 AND 1.81. A. Warner Robins. February 1958. 96p. diagrs., photos., tabs. (NACA RM L57K08) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF THE AERODYNAMIC FORCES ON A WING-MOUNTED EXTERNAL-STORE INSTALLATION ON THE DOUGLAS D-558-II RESEARCH AIRPLANE. Clinton T. Johnson. May 1958. 42p. diagrs., photos., tabs. (NACA RM H58B24) **CONFIDENTIAL**

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(4) AIRCRAFT LOADS AND CONSTRUCTION

EFFECTS OF EXTERNAL STORE-PYLON CONFIGURATION AND POSITION ON THE AERODYNAMIC CHARACTERISTICS OF A 45° SWEEP WING-FUSELAGE COMBINATION AT A MACH NUMBER OF 1.61. Odell A. Morris. May 1958. 52p. diags. (NACA RM L58C13) **CONFIDENTIAL**

EFFECTS OF BOATTAIL AREA CONTOURING AND SIMULATED TURBOJET EXHAUST ON THE LOADING AND FUSELAGE-TAIL COMPONENT DRAG OF A TWIN-ENGINE FIGHTER-TYPE AIRPLANE MODEL. Willard E. Foss, Jr., Jack F. Runkel, and Edwin E. Lee, Jr. July 1958. 62p. diags., photos., tabs. (NACA RM L58C04) **CONFIDENTIAL**

ANALYSIS OF PRESSURE DATA OBTAINED AT TRANSONIC SPEEDS ON A THIN LOW-ASPECT-RATIO CAMBERED DELTA WING-BODY COMBINATION. John P. Mugler, Jr. September 1958. 36p. diags., photos. (NACA RM L58F24) **CONFIDENTIAL**

(4.1.1.5)
AEROELASTICITY

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEEP OR UNSWEEP WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diags., tabs. (NACA RM L57L10) **CONFIDENTIAL**

ANALYSIS OF FLIGHT-DETERMINED AND PREDICTED EFFECTS OF FLEXIBILITY ON THE STEADY-STATE WING LOADS OF THE B-52 AIRPLANE. Albert E. Kuhl, John T. Rogers, and Mary V. Little. April 1958. 57p. diags., photo., tab. (NACA RM H57C25) **CONFIDENTIAL**

(4.1.2)
LANDING

A COMPARISON OF FLIGHT-MEASURED CARRIER-APPROACH SPEEDS WITH VALUES PREDICTED BY SEVERAL DIFFERENT CRITERIA FOR 41 FIGHTER-TYPE AIRPLANE CONFIGURATIONS. Maurice D. White, Bernard A. Schlaff, and Fred J. Drinkwater III. May 1958. 127p. diags., tabs. (NACA RM A57L11) **CONFIDENTIAL**

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~~CONFIDENTIAL~~**(4) AIRCRAFT LOADS AND CONSTRUCTION****(4.2)****Vibration and Flutter**

EXPERIMENTAL INVESTIGATION OF THE DRAG DUE TO WEDGES ALONG THE TRAILING EDGE OF A SWEEP WING. Bruno J. Gambucci and John A. Wyss. June 1958. 15p. diagrs., photos. (NACA RM A58D15) **CONFIDENTIAL**

(4.2.1)**WINGS ANDAILERONS**

TRANSONIC FLUTTER INVESTIGATION OF TWO 50° SEMISPAN MODIFIED-DELTA WINGS WITH TIPAILERONS. Robert J. Platt, Jr. February 1958. 18p. diagrs., photos., tabs. (NACA RM L57J14a) **CONFIDENTIAL**

CALCULATION OF FLUTTER CHARACTERISTICS FOR FINITE-SPAN SWEEP OR UNSWEEP WINGS AT SUBSONIC AND SUPERSONIC SPEEDS BY A MODIFIED STRIP ANALYSIS. E. Carson Yates, Jr. March 1958. 121p. diagrs., tabs. (NACA RM L57L10) **CONFIDENTIAL**

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE SWEEPBACK WING OF A FIGHTER AIRPLANE. Samuel L. Smith III and Robert W. Boswinkle, Jr. April 1958. 26p. diagrs., photos., tabs. (NACA RM L58A15) **CONFIDENTIAL**

EFFECT OF CONTROL TRAILING-EDGE THICKNESS OR ASPECT RATIO ON THE OSCILLATING HINGE-MOMENT AND FLUTTER CHARACTERISTICS OF A FLAP-TYPE CONTROL AT TRANSONIC SPEEDS. William C. Moseley, Jr., and Robert F. Thompson. April 1958. 43p. diagrs., photo., tabs. (NACA RM L58B25) **CONFIDENTIAL**

EFFECTS OF MODIFICATIONS TO A CONTROL SURFACE ON A 6-PERCENT-THICK UNSWEEP WING ON THE TRANSONIC CONTROL-SURFACE FLUTTER DERIVATIVES. John A. Wyss, Robert M. Sorenson, and Bruno J. Gambucci. May 1958. 61p. diagrs., photos., tabs. (NACA RM A58B04) **CONFIDENTIAL**

TESTS OF AERODYNAMICALLY HEATED MULTI-WEB WING STRUCTURES IN A FREE JET AT MACH NUMBER 2. FOUR ALUMINUM-ALLOY MODELS OF 20-INCH CHORD AND SPAN WITH 0.064-INCH-THICK SKIN, 0.025-INCH-THICK RIBS AND WEBS, AND ZERO, ONE, TWO, OR THREE CHORDWISE RIBS. John R. Davidson, Richard Rosecrans, and Louis F. Vosteen. May 1958. 42p. diagrs., photos., tabs., film suppl. available on request. (NACA RM L57L13) **CONFIDENTIAL**

SOME EFFECTS OF FLOW SPOILERS AND OF AERODYNAMIC BALANCE ON THE OSCILLATING HINGE MOMENTS FOR A SWEEP FIN-RUDDER COMBINATION IN A TRANSONIC WIND TUNNEL. Robert W. Herr, Frederick W. Gibson, and Robert S. Osborne. May 1958. 31p. diagrs., photos. (NACA RM L58C28) **CONFIDENTIAL**

TESTS OF AERODYNAMICALLY HEATED MULTI-WEB WING STRUCTURES IN A FREE JET AT MACH NUMBER 2. AN ALUMINUM-ALLOY MODEL OF 40-INCH CHORD WITH 0.125-INCH-THICK SKIN. George E. Griffith and Georgene H. Miltonberger. June 1958. 36p. diagrs., photos., tabs., film suppl. available on request. (NACA RM L58C24) **CONFIDENTIAL**

EFFECT OF AERODYNAMIC HEATING ON THE FLUTTER OF A RECTANGULAR WING AT A MACH NUMBER OF 2. Harry L. Runyan and Nan H. Jones. June 1958. 16p. diagrs., photos. (NACA RM L58C31) **CONFIDENTIAL**

SOME EFFECTS OF MASS RATIO ON THE TRANSONIC FLUTTER CHARACTERISTICS OF UNTAPERED 45° SWEEPBACK WINGS OF ASPECT RATIOS 2 AND 3.5. H. Neale Kelly. June 1958. 19p. diagrs., tabs. (NACA RM L58D17) **CONFIDENTIAL**

ROCKET-MODEL INVESTIGATION TO DETERMINE THE LIFT AND PITCHING EFFECTIVENESS OF SMALL PULSE ROCKETS EXHAUSTED FROM THE FUSELAGE OVER THE SURFACE OF AN ADJACENT WING AT MACH NUMBERS FROM 0.9 TO 1.8. C. William Martz. September 1958. 22p. diagrs., photos. (NACA RM L58G29) **CONFIDENTIAL**

(4.2.2)**TAILS**

TRANSONIC FLUTTER INVESTIGATION OF MODELS OF THE ALL-MOVABLE HORIZONTAL TAIL OF A FIGHTER AIRPLANE. Thomas B. Sellers. January 1958. 30p. diagrs., photos., tabs. (NACA RM L57K13) **CONFIDENTIAL**

INVESTIGATION OF AN ALL-MOVABLE CONTROL SURFACE AT A MACH NUMBER OF 6.86 FOR POSSIBLE FLUTTER. William T. Lauten, Jr., Gilbert M. Levey, and William O. Armstrong. May 1958. 19p. diagrs., photos., tabs. (NACA RM L58B27) **CONFIDENTIAL**

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(4) AIRCRAFT LOADS AND CONSTRUCTION

(4.2.2.1)

ELEVATORS AND RUDDERS

EFFECTS OF MODIFICATIONS TO A CONTROL SURFACE ON A 6-PERCENT-THICK UNSWEPT WING ON THE TRANSONIC CONTROL-SURFACE FLUTTER DERIVATIVES. John A. Wyss, Robert M. Sorenson, and Bruno J. Gambucci. May 1958. 61p. diagrs., photos., tabs. (NACA RM A58B04)
CONFIDENTIAL

INVESTIGATION OF FLUTTER CHARACTERISTICS OF THREE LOW-ASPECT-RATIO ALL-MOVABLE HALF-SPAN CONTROL SURFACES AT MACH NUMBERS FROM 1.49 TO 2.87. Homer G. Morgan, Irving E. Figge, and John G. Presnell, Jr. May 1958. 35p. diagrs., photos., tabs. (NACA RM L58B20)
CONFIDENTIAL

SOME EFFECTS OF FLOW SPOILERS AND OF AERODYNAMIC BALANCE ON THE OSCILLATING HINGE MOMENTS FOR A SWEEPED FIN-RUDDER COMBINATION IN A TRANSONIC WIND TUNNEL. Robert W. Herr, Frederick W. Gibson, and Robert S. Osborne. May 1958. 31p. diagrs., photos. (NACA RM L58C28)
CONFIDENTIAL

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~~CONFIDENTIAL~~**(4) AIRCRAFT LOADS AND CONSTRUCTION****(4.3)****Structures**

PRELIMINARY SURVEY OF POSSIBLE COOLING METHODS FOR HYPERSONIC AIRCRAFT. Jack B. Esgar, Robert O. Hickel, and Francis S. Stepka. May 1958. 37p. diags. (NACA RM E57L19)
CONFIDENTIAL

(4.3.7)**LOADS AND STRESSES**

TESTS OF AERODYNAMICALLY HEATED MULTI-WEB WING STRUCTURES IN A FREE JET AT MACH NUMBER 2. AN ALUMINUM-ALLOY MODEL OF 40-INCH CHORD WITH 0.125-INCH-THICK SKIN. George E. Griffith and Georgene H. Miltonberger. June 1958. 36p. diags., photos., tabs., film suppl. available on request. (NACA RM L58C24)
CONFIDENTIAL

**(4.3.7.7)
DYNAMIC**

BUFFET TESTS OF AN ATTACK-AIRPLANE MODEL WITH EMPHASIS ON ANALYSIS OF DATA FROM WIND-TUNNEL TESTS. Don D. Davis, Jr., and Dewey E. Wornom. February 1958. 56p. diags., photos., tab. (NACA RM L57H13)
CONFIDENTIAL

A PRELIMINARY INVESTIGATION OF HIGH-SPEED IMPACT: THE PENETRATION OF SMALL SPHERES INTO THICK COPPER TARGETS. A. C. Charters and G. S. Locke, Jr. May 1958. 21p. diags., photos. (NACA RM A58B26)
CONFIDENTIAL

MEASUREMENTS OF THE BUFFETING LOADS ON THE WING AND HORIZONTAL TAIL OF A 1/4-SCALE MODEL OF THE X-1E AIRPLANE. A. Gerald Rainey and William B. Igoe. September 1958. 35p. diags., photo., tabs. (NACA RM L58F25)
CONFIDENTIAL

**(4.3.7.7.2)
Transient**

TESTS OF AERODYNAMICALLY HEATED MULTI-WEB WING STRUCTURES IN A FREE JET AT MACH NUMBER 2. FOUR ALUMINUM-ALLOY MODELS OF 20-INCH CHORD AND SPAN WITH 0.064-INCH-THICK SKIN, 0.025-INCH-THICK RIBS AND WEBS, AND ZERO, ONE, TWO, OR THREE CHORDWISE RIBS. John R. Davidson, Richard Rosecrans, and Louis F. Vosteen. May 1958. 42p. diags., photos., tabs., film suppl. available on request. (NACA RM L57L13)
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(5)
MATERIALS

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(5) MATERIALS

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LIMITED TESTS OF MOLYBDENUM COATED WITH MOLYBDENUM DISILICIDE IN A SUPERSONIC HEATED-AIR JET AND BRIEF DESCRIPTION OF THE COATING FACILITY. E. M. Fields and N. T. Wakelyn. January 1958. 21p. diagra., photos., tabs. (NACA RM L57112) CONFIDENTIAL

INVESTIGATION OF TANTALUM IN A 3,000° F. SUPERSONIC AIRSTREAM. Otto F. Trout, Jr., and Jerry L. Modisette. January 1958. 13p. diagra., photos., tab. (NACA RM L57J07a) CONFIDENTIAL

A FEASIBILITY STUDY OF THE FLARE-CYLINDER CONFIGURATION AS A REENTRY BODY SHAPE FOR AN INTERMEDIATE RANGE BALLISTIC MISSILE. James R. Hall and Benjamin J. Garland. May 1958. 23p. diagra. (NACA RM L58C21) CONFIDENTIAL

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(5) MATERIALS

(5.1)
Types

EXPERIMENTAL ABLATION COOLING. Aleck C. Bond, Bernard Rashis, and L. Ross Levin. July 1958. 17p. diagrs., photos., film suppl. available on request. (NACA RM L58E15a) **CONFIDENTIAL**

QUALITATIVE MEASUREMENTS OF THE EFFECTIVE HEATS OF ABLATION OF SEVERAL MATERIALS IN SUPERSONIC AIR JETS AT STAGNATION TEMPERATURES UP TO 11,000° F. Bernard Rashis, William G. Witte, and Russell N. Hopko. July 1958. 25p. diagrs., photo., tabs. (NACA RM L58E22) **CONFIDENTIAL**

(5.1.3)
STEELS

INVESTIGATION OF LITHIUM HYDRIDE AND MAGNESIUM AS HIGH-TEMPERATURE INTERNAL COOLANTS WITH SEVERAL SKIN MATERIALS. Jerry L. Modisette. May 1958. 16p. diagrs., photos., tab. (NACA RM L58B17) **CONFIDENTIAL**
(Title, Confidential)

(5.1.4)
HEAT-RESISTING ALLOYS

EFFECT OF FORGING TEMPERATURE AND HEAT TREATMENT ON THE PERFORMANCE OF INCONEL 700 BUCKETS AT 1625° F IN A J33-9 TURBOJET ENGINE. C. A. Gyorgak, D. F. Springsteen, and J. R. Johnston. February 1958. 37p. diagrs., photos., tabs. (NACA RM E57K14) **CONFIDENTIAL**

INVESTIGATION OF LITHIUM HYDRIDE AND MAGNESIUM AS HIGH-TEMPERATURE INTERNAL COOLANTS WITH SEVERAL SKIN MATERIALS. Jerry L. Modisette. May 1958. 16p. diagrs., photos., tab. (NACA RM L58B17) **CONFIDENTIAL**
(Title, Confidential)

(5.1.5)
CERAMICS

INVESTIGATION OF LITHIUM HYDRIDE AND MAGNESIUM AS HIGH-TEMPERATURE INTERNAL COOLANTS WITH SEVERAL SKIN MATERIALS. Jerry L. Modisette. May 1958. 16p. diagrs., photos., tab. (NACA RM L58B17) **CONFIDENTIAL**
(Title, Confidential)

(5.1.6)
PLASTICS

PRELIMINARY INVESTIGATION OF GRAPHITE, SILICON CARBIDE, AND SEVERAL POLYMER-GLASS-CLOTH LAMINATES IN A MACH NUMBER 2 AIR JET AT STAGNATION TEMPERATURES OF 3,000° F AND 4,000° F. Francis W. Casey, Jr., and Russell N. Hopko. January 1958. 18p. diagrs., photos. (NACA RM L57K15) **CONFIDENTIAL**

FEASIBILITY OF NOSE-CONE COOLING BY THE UPSTREAM EJECTION OF SOLID COOLANTS AT THE STAGNATION POINT. William H. Kinard. March 1958. 17p. diagrs., photos., tab. (NACA RM L57K22) **CONFIDENTIAL**

(5.1.9)
PROTECTIVE COATINGS

LIMITED TESTS OF MOLYBDENUM COATED WITH MOLYBDENUM DISILICIDE IN A SUPERSONIC HEATED-AIR JET AND BRIEF DESCRIPTION OF THE COATING FACILITY. E. M. Fields and N. T. Wakelyn. January 1958. 21p. diagrs., photos., tabs. (NACA RM L57I12) **CONFIDENTIAL**

INVESTIGATION OF LITHIUM HYDRIDE AND MAGNESIUM AS HIGH-TEMPERATURE INTERNAL COOLANTS WITH SEVERAL SKIN MATERIALS. Jerry L. Modisette. May 1958. 16p. diagrs., photos., tab. (NACA RM L58B17) **CONFIDENTIAL**
(Title, Confidential)

EXPERIMENTAL ABLATION COOLING. Aleck C. Bond, Bernard Rashis, and L. Ross Levin. July 1958. 17p. diagrs., photos., film suppl. available on request. (NACA RM L58E15a) **CONFIDENTIAL**

(5.1.10)
FABRICS

PRELIMINARY INVESTIGATION OF GRAPHITE, SILICON CARBIDE, AND SEVERAL POLYMER-GLASS-CLOTH LAMINATES IN A MACH NUMBER 2 AIR JET AT STAGNATION TEMPERATURES OF 3,000° F AND 4,000° F. Francis W. Casey, Jr., and Russell N. Hopko. January 1958. 18p. diagrs., photos. (NACA RM L57K15) **CONFIDENTIAL**

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(5) MATERIALS

(5.1.11)

SANDWICH AND LAMINATES

PRELIMINARY INVESTIGATION OF GRAPHITE, SILICON CARBIDE, AND SEVERAL POLYMER-GLASS-CLOTH LAMINATES IN A MACH NUMBER 2 AIR JET AT STAGNATION TEMPERATURES OF 3,000° F AND 4,000° F. Francis W. Casey, Jr., and Russell N. Hopko. January 1958. 18p. diagrs., photos. (NACA RM L57K15) CONFIDENTIAL

(5.1.13)

TITANIUM

INVESTIGATION OF LITHIUM HYDRIDE AND MAGNESIUM AS HIGH-TEMPERATURE INTERNAL COOLANTS WITH SEVERAL SKIN MATERIALS. Jerry L. Modisette. May 1958. 16p. diagrs., photos., tab. (NACA RM L58B17) CONFIDENTIAL
(Title, Confidential)

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~~CONFIDENTIAL~~(5) MATERIALS

(5.2)
Properties**(5.2.4)**
STRESS-RUPTURE

EFFECT OF FORGING TEMPERATURE AND HEAT TREATMENT ON THE PERFORMANCE OF INCONEL 700 BUCKETS AT 1625° F IN A J33-9 TURBOJET ENGINE. C. A. Gyorgak, D. F. Springateen, and J. R. Johnston. February 1958. 37p. diags., photos., tabs. (NACA RM E57K14)
CONFIDENTIAL

A PRELIMINARY INVESTIGATION OF HIGH-SPEED IMPACT: THE PENETRATION OF SMALL SPHERES INTO THICK COPPER TARGETS. A. C. Charters and G. S. Locke, Jr. May 1958. 21p. diags., photos. (NACA RM A58B26)
CONFIDENTIAL

(5.2.11)
THERMAL

BEHAVIOR OF SOME MATERIALS AND SHAPES IN SUPERSONIC FREE JETS AT STAGNATION TEMPERATURES UP TO 4,210° F, AND DESCRIPTIONS OF THE JETS. E. M. Fields, Russell N. Hopko, Robert L. Swain, and Otto F. Trout, Jr. February 1958. 59p. diags., photos., tabs. (NACA RM L57K26)
CONFIDENTIAL

(5.2.13)
PLASTICITY

AN INVESTIGATION OF THE EFFECT OF TARGET TEMPERATURE ON PROJECTILE PENETRATION AND CRATERING. William H. Kinard and C. H. Lambert, Jr. July 1958. 18p. diags., photos. (NACA RM L58E14)
CONFIDENTIAL

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(7)
OPERATING PROBLEMS

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(7) OPERATING PROBLEMS

(7.1)
Safety

OPERATIONAL PROBLEMS OF MANNED ORBITAL
VEHICLES. Hubert M. Drake, Donald R. Bellman,
and Joseph A. Walker. July 1958. 16p. diagrs.,
tab. (NACA RM H58D21) **CONFIDENTIAL**

(7.1.1)
PILOT-ESCAPE TECHNIQUES

OPERATIONAL PROBLEMS OF MANNED ORBITAL
VEHICLES. Hubert M. Drake, Donald R. Bellman,
and Joseph A. Walker. July 1958. 16p. diagrs.,
tab. (NACA RM H58D21) **CONFIDENTIAL**

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(7) OPERATING PROBLEMS

(7.2)
Navigation

OPERATIONAL PROBLEMS OF MANNED ORBITAL
VEHICLES. Hubert M. Drake, Donald R. Bellman,
and Joseph A. Walker. July 1958. 16p. diagrs.,
tab. (NACA RM H58D21) **CONFIDENTIAL**

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(7) OPERATING PROBLEMS

(7.4)
Noise

EFFECT OF COMPRESSIBILITY ON THE HOVERING
PERFORMANCE OF TWO 10-FOOT-DIAMETER
HELICOPTER ROTORS TESTED IN THE LANGLEY
FULL-SCALE TUNNEL. Joseph W. Jewel, Jr., and
Robert D. Harrington. April 1958. 43p. diagrs.,
photos., tab. (NACA RM L58B19) CONFIDENTIAL

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(7) OPERATING PROBLEMS

(7.7)

Piloting Techniques

A FLIGHT STUDY OF LONGITUDINAL-CONTROL-SYSTEM DYNAMIC CHARACTERISTICS BY THE USE OF A VARIABLE-CONTROL-SYSTEM AIRPLANE. Norman M. McFadden, Frank A. Pauli, and Donovan R. Heinle. March 1958. 32p. diags., photo. (NACA RM A57L10) **CONFIDENTIAL**

A COMPARISON OF FLIGHT-MEASURED CARRIER-APPROACH SPEEDS WITH VALUES PREDICTED BY SEVERAL DIFFERENT CRITERIA FOR 41 FIGHTER-TYPE AIRPLANE CONFIGURATIONS. Maurice D. White, Bernard A. Schlaff, and Fred J. Drinkwater III. May 1958. 127p. diags., tabs. (NACA RM A57L11) **CONFIDENTIAL**

CONTROL DEFLECTIONS, AIRPLANE RESPONSE, AND TAIL LOADS MEASURED ON AN F-100A AIRPLANE IN SERVICE OPERATIONAL FLYING. Chris Pembo and Gene J. Matrangola. June 1958. 39p. diags., photo., tab. (NACA RM H58C26) **CONFIDENTIAL**

OPERATIONAL PROBLEMS OF MANNED ORBITAL VEHICLES. Hubert M. Drake, Donald R. Bellman, and Joseph A. Walker. July 1958. 16p. diags., tab. (NACA RM H58D21) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF THE LOW-SPEED CHARACTERISTICS OF A 45° SWEEP-WING FIGHTER-TYPE AIRPLANE WITH BLOWING BOUNDARY-LAYER CONTROL APPLIED TO THE TRAILING-EDGE FLAPS. Hervey C. Quigley, Seth B. Anderson, and Robert C. Innis. August 1958. 50p. diags., photos., tabs. (NACA RM A58E05) **CONFIDENTIAL**

ANALYSIS OF EFFECTS OF INTERCEPTOR ROLL PERFORMANCE AND MANEUVERABILITY ON SUCCESS OF COLLISION-COURSE ATTACKS. William H. Phillips. August 1958. 37p. diags., tabs. (NACA RM L58E27) **CONFIDENTIAL**

SIMULATOR STUDIES OF JET REACTION CONTROLS FOR USE AT HIGH ALTITUDE. Wendell H. Stillwell and Hubert M. Drake. September 1958. 40p. diags., photos. (NACA RM H58G18a) **CONFIDENTIAL**

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(7) OPERATING PROBLEMS

(7.8)
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OPERATIONAL PROBLEMS OF MANNED ORBITAL
VEHICLES. Hubert M. Drake, Donald R. Bellman,
and Joseph A. Walker. July 1958. 16p. diags.,
tab. (NACA RM H58D21) **CONFIDENTIAL**

SIMULATION STUDY OF A HIGH-PERFORMANCE
AIRCRAFT INCLUDING THE EFFECT ON PILOT
CONTROL OF LARGE ACCELERATIONS DURING
EXIT AND REENTRY FLIGHT. C. H. Woodling,
James B. Whitten, Robert A. Champine, and Robert
E. Andrews. July 1958. 10p. diags., photos.,
film suppl. available on request.
(NACA RM L58E08a) **CONFIDENTIAL**

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(7) OPERATING PROBLEMS

(7.10)
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OPERATIONAL PROBLEMS OF MANNED ORBITAL
VEHICLES. Hubert M. Drake, Donald R. Bellman,
and Joseph A. Walker. July 1958. 16p. diagrs.,
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TELEMETER TRANSMISSION AT 219.5 MEGA-
CYCLES FROM TWO ROCKET-POWERED MODELS
A MACH NUMBERS UP TO 15.7. George B.
Graves, Jr., and J. Thomas Markley. July 1958.
38p. diagrs., photos. (NACA RM L58D18a)

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**(8.1)
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TRACKING PERFORMANCE OF A SWEEP-WING FIGHTER WITH A DIRECTOR-TYPE RADAR FIRE-CONTROL SYSTEM AND SCOPE PRESENTATION. Howard L. Turner, George A. Rathert, Jr., and Donovan R. Heinle. January 1958. 24p. diags., photo. (NACA RM A57J01) **CONFIDENTIAL**

EXPERIMENTAL RESULTS OF AN INVESTIGATION OF TWO METHODS OF INFLIGHT THRUST MEASUREMENT APPLICABLE TO AFTERBURNING TURBOJET ENGINES WITH EJECTORS. Harry E. Bloomer. May 1958. 38p. diags., photos. (NACA RM E57H28) **CONFIDENTIAL**

OPERATIONAL PROBLEMS OF MANNED ORBITAL VEHICLES. Hubert M. Drake, Donald R. Bellman, and Joseph A. Walker. July 1958. 16p. diags., tab. (NACA RM H58D21) **CONFIDENTIAL**

SIMULATION STUDY OF A HIGH-PERFORMANCE AIRCRAFT INCLUDING THE EFFECT ON PILOT CONTROL OF LARGE ACCELERATIONS DURING EXIT AND REENTRY FLIGHT. C. H. Woodling, James B. Whitten, Robert A. Champine, and Robert E. Andrews. July 1958. 10p. diags., photos., film suppl. available on request. (NACA RM L58E08a) **CONFIDENTIAL**

A FLIGHT STUDY OF THE EFFECTS OF NOISE FILTERING IN THE ATTACK DISPLAY ON THE PILOT'S TRACKING PERFORMANCE. Howard L. Turner and Donovan R. Heinle. September 1958. 18p. diags., tabs. (NACA RM A58E21) **CONFIDENTIAL**

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(9)
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(9) RESEARCH EQUIPMENT AND TECHNIQUES

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LIMITED TESTS OF MOLYBDENUM COATED WITH
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HEATED-AIR JET AND BRIEF DESCRIPTION OF
THE COATING FACILITY. E. M. Fields and
N. T. Wakelyn. January 1958. 21p. diagrs.,
photos., tabs. (NACA RM L57112) ~~CONFIDENTIAL~~

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(9) RESEARCH EQUIPMENT AND TECHNIQUES

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SIMULATION STUDY OF A HIGH-PERFORMANCE AIRCRAFT INCLUDING THE EFFECT ON PILOT CONTROL OF LARGE ACCELERATIONS DURING EXIT AND REENTRY FLIGHT. C. H. Woodling, James B. Whitten, Robert A. Champine, and Robert E. Andrews. July 1958. 10p. diags., photos., film suppl. available on request.
(NACA RM L58E08a) **CONFIDENTIAL**

**(9.1.1)
WIND TUNNELS**

BEHAVIOR OF SOME MATERIALS AND SHAPES IN SUPERSONIC FREE JETS AT STAGNATION TEMPERATURES UP TO 4,210° F, AND DESCRIPTIONS OF THE JETS. E. M. Fields, Russell N. Hopko, Robert L. Swain, and Otto F. Trout, Jr. February 1958. 59p. diags., photos., tabs.
(NACA RM L57K26) **CONFIDENTIAL**

THEORETICAL ANALYSIS OF THE INTERFERENCE EFFECTS OF SEVERAL SUPERSONIC-TUNNEL WALLS CAPABLE OF ABSORBING THE SHOCK CAUSED BY THE NOSE OF A MODEL. Clarence W. Matthews. May 1958. 50p. diags.
(NACA RM L58B21) **CONFIDENTIAL**

**(9.1.2)
FREE-FLIGHT**

A FLIGHT STUDY OF LONGITUDINAL-CONTROL-SYSTEM DYNAMIC CHARACTERISTICS BY THE USE OF A VARIABLE-CONTROL-SYSTEM AIR-PLANE. Norman M. McFadden, Frank A. Pauli, and Donovan R. Heinle. March 1958. 32p. diags., photo. (NACA RM A57L10) **CONFIDENTIAL**

EFFECTS OF SURFACE ROUGHNESS AND EXTREME COOLING ON BOUNDARY-LAYER TRANSITION FOR 15° CONE-CYLINDER IN FREE FLIGHT AT MACH NUMBERS TO 7.6. Leonard Rabb and Milan J. Krasnican. March 1958. 61p. diags., photos., tabs. (NACA RM E57K19) **CONFIDENTIAL**

**(9.1.4)
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PRELIMINARY PERFORMANCE DATA OBTAINED IN A FULL-SCALE, FREE-JET INVESTIGATION OF A SIDE-INLET SUPERSONIC DIFFUSER. Ferris L. Seashore and John M. Farley. January 1958. 33p. diags., photos., tab.
(NACA RM E57E24) **CONFIDENTIAL**

**(9.1.6)
MATERIALS**

AN INVESTIGATION OF THE EFFECT OF TARGET TEMPERATURE ON PROJECTILE PENETRATION AND CRATERING. William H. Kinard and C. H. Lambert, Jr. July 1958. 18p. diags., photos.
(NACA RM L58E14) **CONFIDENTIAL**

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(9) RESEARCH EQUIPMENT AND TECHNIQUES

**(9.2)
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TRACKING PERFORMANCE OF A SWEEP-WING FIGHTER WITH A DIRECTOR-TYPE RADAR FIRE-CONTROL SYSTEM AND SCOPE PRESENTATION. Howard L. Turner, George A. Rathert, Jr., and Donovan R. Heinle. January 1958. 24p. diagrs., photo. (NACA RM A57J01) **CONFIDENTIAL**

STUDY OF EXIT PHASE OF FLIGHT OF A VERY HIGH ALTITUDE HYPERSONIC AIRPLANE BY MEANS OF A PILOT-CONTROLLED ANALOG COMPUTER. Windsor L. Sherman, Stanley Faber, and James B. Whitten. APPENDIX: THE ANALOG SIMULATOR PROGRAMING. Robert E. Andrews. March 1958. 53p. diagrs., photo., tabs. (NACA RM L57K21) **CONFIDENTIAL**

BOUNDARY-LAYER-TRANSITION MEASUREMENTS IN FULL-SCALE FLIGHT. Richard D. Banner, John G. McTigue, and Gilbert Petty, Jr. July 1958. 10p. diagrs., photos. (NACA RM H58E28) **CONFIDENTIAL**

AN INVESTIGATION OF THE EFFECT OF TARGET TEMPERATURE ON PROJECTILE PENETRATION AND CRATERING. William H. Kinard and C. H. Lambert, Jr. July 1958. 18p. diagrs., photos. (NACA RM L58E14) **CONFIDENTIAL**

A FLIGHT STUDY OF THE EFFECTS OF NOISE FILTERING IN THE ATTACK DISPLAY ON THE PILOT'S TRACKING PERFORMANCE. Howard L. Turner and Donovan R. Heinle. September 1958. 18p. diagrs., tabs. (NACA RM A58E21) **CONFIDENTIAL**

**(9.2.1)
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THEORETICAL ANALYSIS OF THE INTERFERENCE EFFECTS OF SEVERAL SUPERSONIC-TUNNEL WALLS CAPABLE OF ABSORBING THE SHOCK CAUSED BY THE NOSE OF A MODEL. Clarence W. Matthews. May 1958. 50p. diagrs. (NACA RM L58B21) **CONFIDENTIAL**

**(9.2.2)
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INVESTIGATION OF VORTEX MOVEMENTS ABOUT A WING IN STEADY SUBSONIC FLOW UNDERGOING A LARGE ANGLE-OF-ATTACK CHANGE IN A BLAST-INDUCED GUST. Donald R. McFarland and Paul W. Huber. January 1958. 41p. diagrs., photos., tab. (NACA RM L57K04) **CONFIDENTIAL**

AERODYNAMIC CHARACTERISTICS OVER A MACH NUMBER RANGE OF 1.40 TO 2.78 OF A ROCKET-PROPELLED AIRPLANE CONFIGURATION HAVING A LOW 52.5° DELTA WING AND AN UNSWEPT HORIZONTAL TAIL. Alan B. Kehlet. March 1958. 26p. diagrs., photos., tab. (NACA RM L58A23) **CONFIDENTIAL**

**(9.2.3)
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PRELIMINARY INVESTIGATION OF LAND-WATER OPERATION WITH A 1/10-SCALE MODEL OF A JET AIRPLANE EQUIPPED WITH HYDRO-SKIS. William C. Thompson. March 1958. 25p. diagrs., photos., tabs. (NACA RM L58A22) **CONFIDENTIAL**

**(9.2.4)
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INVESTIGATION OF VORTEX MOVEMENTS ABOUT A WING IN STEADY SUBSONIC FLOW UNDERGOING A LARGE ANGLE-OF-ATTACK CHANGE IN A BLAST-INDUCED GUST. Donald R. McFarland and Paul W. Huber. January 1958. 41p. diagrs., photos., tab. (NACA RM L57K04) **CONFIDENTIAL**

BUFFET TESTS OF AN ATTACK-AIRPLANE MODEL WITH EMPHASIS ON ANALYSIS OF DATA FROM WIND-TUNNEL TESTS. Don D. Davis, Jr., and Dewey E. Wornom. February 1958. 56p. diagrs., photos., tab. (NACA RM L57H13) **CONFIDENTIAL**

**(9.2.5)
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PRELIMINARY PERFORMANCE DATA OBTAINED IN A FULL-SCALE, FREE-JET INVESTIGATION OF A SIDE-INLET SUPERSONIC DIFFUSER. Ferris L. Seashore and John M. Farley. January 1958. 33p. diagrs., photos., tab. (NACA RM E57E24) **CONFIDENTIAL**

FLIGHT INVESTIGATION OF A FULL-SCALE AIRCRAFT EJECTOR WITH VARIOUS SPACING RATIOS AND CORRELATION WITH SMALL-SCALE TESTS. C. Dewey Havill and Rodney C. Wingrove. August 1958. 48p. diagrs., photos., tab. (NACA RM A58D21) **CONFIDENTIAL**

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(9) RESEARCH EQUIPMENT AND TECHNIQUES

(9.2.6)**OPERATING PROBLEMS**

OPERATIONAL PROBLEMS OF MANNED ORBITAL
VEHICLES. Hubert M. Drake, Donald R. Bellman,
and Joseph A. Walker. July 1958. 16p. diagrs.,
tab. (NACA RM H58D21) **CONFIDENTIAL**

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